

Quality Management in the South African Public Procurement System

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Abstract

Total quality management principles stress the role of supplier evaluation as a pivotal component of ensuring product or service quality. It is the task of the procurement function to evaluate different suppliers and to select the supplier that will provide good quality product/service at a reasonable price. In the public sector, the supplier selection process is more complicated as there are regulations and legislative frameworks that need to be adhered to. In the South African public procurement system, multiple sourcing through the tendering system, is utilised. Potential suppliers are invited to bid for contracts and get evaluated based on set criteria. The Preferential Procurement Policy Framework provides guidelines for the criteria to be used in adjudicating public tenders. Quality/Functionality is part of the set criteria. There are various methodologies used to assess functionality in public tenders and all those methodologies have their own advantages and disadvantages. Using document analysis, this paper will assess how functionality is utilised and assessed in the South African public procurement regime to determine winning bids. Public tender notice documents were reviewed, and thematic analyses of the data carried out and presented. The results of the study can be used to determine the effectiveness of these methodologies in the management of quality in South African public institutions

Keywords: Quality management principles, Supplier evaluation, procurement function, Public Procurement

1. Introduction

Supplier selection forms an integral part of total quality management in organisations based on the concept of what you put in is what you get out. High quality process inputs produce high quality results/outputs. This makes the procurement function a vital cog in the management of quality within organisations. The statement is also true for public/state entities. Public entities must purchase goods/services that would ensure that the integrity of the services that they must deliver to the country is not compromised. Ambe and Weiss, (2012) define public procurement as the function whereby public sector organisations purchase goods and services from suppliers, subject to the general principles of fairness, equitability, transparency, competitiveness and cost-effectiveness. In many countries, public procurement is also utilised to support government's social and political programs. To this effect, government policies therefore formulates frameworks on how public procurement should be conducted. This adds another dimension to the already complex nature of supplier selection in procurement. Liu and Hai, (2005) promulgate that supplier selection is difficult to manage because the performances of suppliers are varied based on each criterion and in the public sector, regulations on the criteria to be followed when evaluating suppliers is determined by government policies. To address the general principles mentioned above, the public procurement system of South Africa utilises the tendering system. Bids are solicited from potential suppliers and those bids are scored using a set criterion to determine the winning bid. Preferential Procurement Policy Framework Act (PPPFA) managed by Supply Chain Management (SCM) maps out the criteria for the adjudication of public tenders.

As part of managing the quality of the products or services purchased, Functionality is included in the criteria for adjudicating state tenders in South Africa. Quality, which is usually called functionality in public procurement, of the goods or services procured by government is an essential consideration when deciding which supplier should be awarded a certain public tender. The regulation of public procurement emphasises that attention must be given to the role of functionality in the adjudication of public tenders and the final award decision. This paper will review how functionality is assessed and utilised in South Africa's public procurement system and state the advantages and disadvantages inherent in the different methods used to evaluate functionality. This study streamlines the effectiveness of using the functionality criterion during the tendering stage as the main technique for the management of quality in public entities and whether there are other alternative methods that public entities can utilise to ensure the delivery of quality products of services.

2. Materials and Methods

Bowen, (2009) promulgates that document analysis is less time-consuming and therefore more efficient than other research methods. It requires data selection, instead of data collection. Most of the documents that were utilized in this study are already in the public domain with some being made available when requested. That made the selection of relevant data more important. The important consideration was the time frame for the data selection and whether to classify data according to projects, products or services as those may impact of the specifications and utilization of functionality. The decision was made to collect data from the first three months (March-May) of the current financial year (2018/19) to keep the volume of data manageable. In effect, this study adopted a qualitative approach. The materials used are mainly secondary data, though first-hand information obtained through opinion surveys can be classified as primary data. Information (data) from both primary and secondary sources were carefully harnessed, analysed and integrated to charter a reasonable direction on assessment of public procurement tenders in the study stretch. The research topic provides for the selected research analytic procedures. To understand how quality is managed in public procurement in South Africa, tender documents were analysed. Often used in historical research, document review involves the study and analysis of data about past events. Wilkins et al., (2007) further posit that the methods utilised to conduct document review are flexible and open because the purpose is to learn how past intentions and events were related due to their meaning and value. In this study, tender documents from the e-tenders portal will be analysed. The aim of the analysis is to try and map out any trends in the bidding requirements, to ascertain how many of the public tenders advertised specified functionality as a criterion and finally to classify how functionality was utilised in the advertised public tenders. Documents provide supplementary research data. Information and insights derived from documents can be valuable additions to a knowledge base

In all countries, public procurement must comply with specific legislative requirements. (Falgario et al., 2011). An example of such legislative requirements is the European Union which uses Public Procurement Directive (European Parliament and Council Directive, 2004) to regulate public procurement. In South Africa, Section 217 of the Constitution stipulates the goals of public procurement and the PPPFA provides the framework for public procurement to achieve specific goals. The utilisation of functionality to adjudicate tenders in South Africa is provided for within the framework. This study will look at how the functionality criterion is utilised in public procurement. From the data obtained through online sources and literatures, the studies on how quality is utilised in the scoring of public procurement tenders seem to be spread into three main categories as follows:

1. The prior specification of applicable quality standards (Kuypers and Gruppen, 2008; Camen, 2010)
2. The assessment of quality in prequalification requirements (Eadie *et al.*, 2012; Brochner et al., 2016; Goel, 2016) and,
3. The application of a quality criteria at contract-awarding stage. (Enquist *et al.*, 2011; Van Blerk, 2012).

2.1 Specification of Applicable Quality Standards

Referencing the Directive 2004/18, Kuypers and Gruppen, 2008 promulgate that procuring entities have the choice to formulate tender specifications either by reference to technical specifications or in terms of performance or functional requirements. (Curkovic and Handfield, (1996) reiterated that when evaluating performance or suppliers, the role of quality should be a primary dimension. Purchasing personnel require certification/compliance to ISO 9001 and similar standards as both a pre-requisite for participation in global markets and in supplier selection. ISO 9001 can be utilised as a tool for companies when assessing a supplier's process conformance. Dulmin and Mininno, (2003) also included the presence or absence of quality management certifications as one of the variables to consider when selecting suppliers. Some, like Mateus et al., (2011) advocate for fixing of some of the aspects in the contracts. That include

specifications and conformity certifications. The major advantage of this is that both suppliers and purchasers know the quality standards that they need to comply to and the requirements thereof. The cost of certification is one of the disadvantages of using such criteria. Higher cost of implementing ISO 9001 and related standards may exclude smaller firms from bidding.

2.2 The Evaluation of Quality in Prequalification

The pre-qualification of suppliers is a pivotal step in project procurement. Pre-qualification is the process of screening suppliers that, when done right, leads to the selection of a qualified supplier and gives confidence to the client. El-Sawalhi et al., (2007) revealed that the most acceptable contractor's pre-qualification criteria are financial stability, management and technical ability, supplier's experience, supplier's performance, resources, quality management and health and safety concerns. One of the ways of assessing suppliers' quality management systems is through established quality audits and measurements like ISO 9001, Malcom Baldrige Award criteria, etc. Banaitiene and Banaitis, (2006) corroborated the statement above by positing that contractor prequalification is a commonly used process for identifying a qualified, sound and reliable supplier. A general prequalification exercise is performed to identify an appropriate supplier from the bidders and to evaluate and score those suppliers according to their economic and technical aspects, quality assurance standards, past performance etc. Costantino et al. (2008) indicated that using a 'prequalification process' when there are many suppliers/contractors results in benefits for both the public (client) and private organisations (supplier/contractor). This is due to a balance being achieved between encouraging competition among different suppliers and the reduction of the additional costs of assessing bids. Van Blek, (2012) points out the disadvantage of using prequalification method, stating that this may result in a cheaper, lower production and/or substandard machine making it through the eligibility process and score the highest points due to its lower price.

2.3 Application of quality criteria at contract awarding stage

Quality may sometimes be used in the scoring of bids to determine the winning bidder. Falagario et al., (2012) state that in public procurement, the selection of the winning proposal is a very complex process when both prices and technical aspects are to be considered due to the large number of bidders. Relative scoring functions define the score of a tender by comparing its performance with the ones of other tenders (e.g. the average price, the best quality, etc.). Most researchers seem to agree that bid scoring tends to be a tedious and costly process. This happens mostly because information, such as enhancement plans, quality and performance, which is usually imprecise, must be considered. Scoring functions may also be absolute or relative. Citing the Ireland public procurement system, Erridge and Hennigan, (2006) state that the quality of the plan is considered as an award criterion - only when other aspects of the tenders are equal. South Africa's Preferential Procurement Regulations has, at various stages, made provisions for all the categories above to be used in the evaluation of functionality. The Preferential Procurement Regulations, (2001) stipulated that authorities may evaluate bids on both price and functionality in addition to the preferential procurement dimension. In 2011, Regulation 4 of the Preferential Procurement regulations provided for functionality to be assessed as a qualification criterion in a first stage of adjudication with only bidders obtaining the minimum threshold score for functionality proceeding to the next phase of evaluation. Some of these changes in the regulations were brought about by litigation. Some bidders challenged the application of these regulations and achieved some success which led to the amendments of the regulations. (Molver and Harding, 2014)

3. Data Analysis

The analysis and interpretation of research data form major part of any research (Amaratunga et al., 2002) and as noted by Johnson and Onwuegbuzie (2004), finding the right analytical method and strategy is of utmost importance. Altheide, (1996) predicated that qualitative document analysis is like all qualitative methodology in that the main emphasis is on discovery and description, including search for underlying meanings, patterns, and processes. Thematic analysis of public tender documents was conducted for this study. For the initial part of this research, the aim was to quantify some of the results which will lay the foundation for the rest of the study. This study attempted to assess the number of public tenders in which functionality was part of the evaluation criteria with the next step being to determine how was functionality going deployed in the adjudication of those tenders. The categories for the evaluation of functionality were deductively created from available literature. Using Fereday and Muir-Cochrane (2006) guidelines, the selected data was coded and fitted into the pre-selected categories. Upon accessing the data, the discovery of other factors that may influence whether a tender would be assessed on functionality was made which led to a further breakdown of the data. Factors like the category in which the procuring entity falls under, were taken into consideration as well as the nature of what was being procured. Document analysis also allows for some flexibility in

the coding of data and would have been applied if categories, other than the ones found in literature, had emerged. The categorised data was also quantified to highlight the most preferred method by public procurement managers.

4. Results and Discussion

The reviewed literature assisted in creating categories for deductive analysis of the document review data. As manifest analysis of the document review had been conducted, data was deductively coded into categories developed from available literature and quantified to justify the conclusions drawn from the data. Bengtsson, (2016) posits that one of the advantages of content analysis is that it can be both qualitative and quantitative and the data can be analysed inductively or deductively. This enables the researcher to analyse the data in-depth and to express it quantitatively.

The data was first categorised by procuring entities. It was discovered that there are different levels of government departments that must comply with the procurement regulations. These levels may also mean that there are other regulations that may affect procurement. An example of that is seen in the Municipal Finance Management Act (MFMA) that may lead to procurement tenders by municipalities being scored in a slightly different manner than the other arms of the state, as presently practised. Of the two hundred tender documents accessed (Anonymous 1, 2018) about 40% was from municipalities and the rest distributed among SoE's (35%), Provincial Departments (10%) and National Departments (15%). The breakdown is tabulated below.

Table 1: Public Procurement entities

Procuring Entities	National Departments	15%
	Provincial Departments	10%
	Municipalities	40%
	State-Owned Enterprise	35%

This provides an indication of any other factors that may affect procurement when further analyses are conducted. The items that were to be procured were also classed into two broad categories, namely; Services and Supplies. What informed the classification was that the type of procured services have different evaluation criteria. For instance, it may be relatively simpler to evaluate a product that is supplied based on stipulated specification than evaluating a service that is yet to be provided. That influences how quality or functionality may be adjudicated. The two categories and the percentage distribution are summarised in the table below.

Table 2: Purchase Classifications

Nature of Purchase	Product	15%
	Services	85%

Products varied from electrical supplies, plumbing supplies to detergents and cleaning material and equipment etc. while services included banking facility provision, construction, calibration and servicing of equipment etc. At a later stage of the research, these categories may be broken further should it be deemed necessary. Another contributing factor which made this category important was that there are other regulations that govern some industries that need to be considered when tendering. For instance, in the construction industry, The Construction Industry Development Board (CIDB) has its own guidelines on how to score/evaluate tenders and that could also influence how quality is evaluated.

Not all tenders consider quality in their scoring and evaluation criteria and while others may include the quality requirements, those requirements play very little/no part in determining who gets awarded the tender. From the two hundred tender documents reviewed, seventy-five had functionality as part of the bidding process. That equates to 37.5% of the tenders. The results are tabulated below. What can be observed from the table below is that from the published tenders from the national and provincial departments analysed, none were going to be adjudicated on functionality. They were all going to be adjudicated based on the 80/20 or 90/10 (Price/Preference) points depending on the financial value of the tender.

Table 3: Tenders that had functionality in the evaluation criteria

			Functionality	
Procuring Entities	National Departments	15%	30	0
	Provincial Departments	10%	20	0
	Municipalities	40%	80	5
	State-Owned Enterprise	35%	70	70

In such tenders, points were going to be awarded based on price and Broad-Based Black Economic Empowerment (BBBEE) scoring. Quality requirements may be stated in the tender documents but play no part in the final decision. About 6% of municipal tenders were going to be adjudicated taking functionality into consideration and all the SoE tenders used functionality in their scoring system. Of the thirty-seven-and-a-half percent of the tenders that were going to be evaluated taking quality into consideration, 93% of them were from the SoE's which gave an indication that State-Owned Enterprises use quality to score tenders more than the other public entities. The reasons for that will be explored further when the next part of the research is undertaken.

A breakdown of the number of tenders that had functionality as part of the scoring and how functionality was going to be utilized is summarized below

Table 4: Functionality Categories in SA's public procurement

Functionality Categories	
Total Tenders where functionality is specified: 75	
Specification of Applicable Standards	Using Quality in Pre-qualification Criteria
30%	70%

There were challenges in coding the data for the categories above. What was observed is that functionality can be used at different stages of the scoring process which made it difficult to distinctly classify and fit into the categories. For example, applicable standards may be stated in the tender document and also be utilized as a tie breaker should two or more bidders be tied on points. In that instance, the use of functionality can fit into two categories from the ones stated above. The decision was taken to classify that data according to what is stated in the tender document and not what would happen as a result of permutations in the scoring process. The other challenge was that functionality was evaluated based on its own criteria and quality standards (ISO 9001 etc.) may be specified as part of a list of other criteria to satisfy and a points threshold to meet. In the evaluation of quality, the contractors' previous experience, key personnel qualifications and experience, safety requirements may be considered. These are assigned various weighting and contractors should score a certain number of points to progress to the next stage. In creating the category, the researcher only took into consideration tenders that specified standards or compliance to certain standards as the main criterion.

5. Conclusions

The South African public procurement system allows for the use of quality (functionality) to determine successful bidders but leaves the decision on whether to include functionality in the scoring process at the discretion of the procurer. Where functionality is to be assessed as part of the tender process, state procurers, guided by the PPPFA of 2011 assess functionality in the prequalification process. This has both advantages and disadvantages to both the procurer and suppliers. In other instances, like in the construction sector, procurers may assess functionality in the prequalification stage and also use it in the award stage. The Construction Industry Development Board (CIDB) makes provisions for that. Ambiguity with the act and regulations has led to a number of court challenges on the evaluation of quality. Quinot (2014); Molver and Harding, (2014) detail some of those cases and the implications that they have had on the act and regulations. One of those cases, Sizabonke Civils CC t/a Pilcon Projects v Zululand District Municipality, led to the amendment of the 2001 regulations. The change made was that functionality should only be used as a qualification criterion. That has also been challenged through another court case, Rainbow Civils CC v Minister of Transport and Public Works, Western Cape. According to Molver and Harding, (2014), the effect of the judgement in the case cited is that the tender evaluation process arguably now allows functionality to serve more than a mere gate-keeping function and to be taken into account a second time around after a tender has been evaluated on price and preference. Which means that a contract may be awarded to the tenderer who, despite not obtaining the

highest score through the preferential points system, demonstrates a superior ability to provide the relevant goods or services. The ambiguous nature of the regulations made it difficult judge whether the third category found in literature (Using quality at the awarding stage) should be created. The PPPF Act, before the Rainbow Civils court challenge, had made it mandatory to assess quality at the prequalification stage effectively eliminating the last category from those found in literature. This provides the explanation why the majority of tenders evaluated score quality at the prequalification stage.

The specification of applicable standards is also a form of prequalification as a tenderer either has to produce the required certification or prove, through documentation, compliance to the applicable standards. The major difference is that certification or compliance to the specified standard is assessed together with the rest of the requested documents. Not satisfying those requirements does not lead to the bid not being assessed but contribute to overall score. The methods of using bids can only indicate that the suppliers can deliver the required product or service but cannot ensure that the final product or service is of the required quality or standard. TQM principles require more stringent supplier selection methods. This coupled with the ambiguity in the framework necessitates the need for a better system of evaluating suppliers and managing quality in public procurement. One major criticism of using prequalification methods to evaluate bids, is that it leads to gate-keeping (van Blerk, 2012) especially when the factors evaluated at prequalification stage play no further role in adjudicating the bid. The evaluation of bids through prequalification gives larger corporates an advantage over smaller or start up companies which goes against the principle of fairness stated in the regulations.

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Biography

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