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# IN SEARCH OF ALTERNATIVE AWARDING CRITERIA

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In Austria, the public procurement of construction works is mainly based on two different types - the lowest acquisition costs and the most economically advantageous tender. The first one only considers the price, which means, that the contract is awarded to the bidder with the cheapest price. The other principle refers to the most economically advantageous tender, which has to be chosen for projects that exceed a certain overall tender value or are related to projects with higher complexity. This principle focuses on considering other awarding factors besides the price, but it often fails its purpose due to the lower weighting of these issues. Over the last years the market has not expanded very much, therefore there is a lot of competition related to the lowest price, which results in inadequate quality and opens up the field for further claims. In order to end the tense price competition among the competitors and to increase the quality of the projects, new criteria with serious weighting will be needed and to fulfill the most economically advantageous tender and supporting the focus on construction quality. Even though there are acknowledged guidelines dealing with environmental aspects of construction sites, like the RUMBA guideline (*Richtlinien für umweltfreundliche Baustellenabwicklung* - Guidelines for Sustainable Construction Site Management). However aspects of sustainability are no common standard within construction processes. To capture the common standards of sustainable measures on construction sites, and the industries' understanding for environmental topics, research on experts in the field was done. Based on the authors' acknowledgements, the paper targets the aspects of an environmental friendly construction site and introduces new criteria for the awarding process, and mentions some of the findings such as the "technical equipment expertise" or "sustainable construction site management".

*Keywords*: Public procurement, Construction quality, Most economically advantageous tender, Sustainability.

## 1 INTRODUCTION

The current situation in the construction industry is characterized by highly competitive markets and a strong focus on tendering for the lowest costs. That means, only the price is considered for awarding the contract. It is related to the principles of public procurement, which tells public clients that they have to take care of public investments and therefore they are forced to base their tendering decisions on something obvious and easy to check and justify by internal audits on how they are spending public funds. However, it is clear, that not only the price is reasonable for awarding a contract.

Related to the current planning and construction conditions, planning services are often not fully terminated when the procurement process starts in order to save time in the construction project. Bauer and Heck (2014) state that this lack of planning depth in the beginning of a project mostly leads to complications in the stages of construction and to changes in the final design.

This often leads to claims and disputes about the scope and extends of the additional works between the client and the contractor. As a consequence those disputes lead to disrupted construction processes and often end up in legal conflicts.

This situation seems to become more and more unsatisfying and the need for other aspects to base the procurement decision on increases.

It also represents the initial basis of the current contribution. In this context several case studies have been investigated (Stabauer 2015) and based on the findings, additional criteria have been developed how the procurement decision can be used for awarding construction works.

## 2 LEGAL REQUIREMENTS

It is necessary to consider the legal frameworks of public procurement and to keep the main goals of public procurement in mind before thinking about possible alternative awarding criteria. In the following figure 1 the main principles are illustrated. Therefore to be in line with the European procurement law (Directive 2014/24/EU), the principle of non-discrimination as well as the transparency of the contract awarding has to be cared about. Additionally the principle of supporting a competitive market situation should be kept in mind, to foster new and innovative solutions and developments.

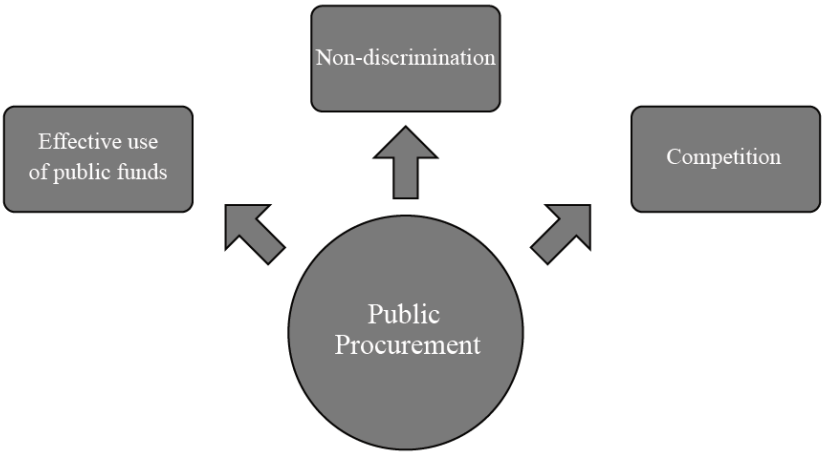


Figure 1. The main principles of public procurement.

Furthermore according to the federal public procurement act in Austria there are several financial boundaries, which are used for defining what kind of procurement procedure can be applied in a certain project. E.g. if the construction costs exceed 5.186.000 EUR, the call for tenders has to be announced on European level according

to the Commission Regulation EU No. 1336/2013. This means if the contract increases a certain amount, the most economically advantageous tender needs to be applied. Therefore additional criteria are necessary to be considered during the procurement process. At the moment, according to the state of the art in the Austrian public procurement, there are several awarding criteria used such as

- Extension of warranty
- Reduction/Saving of construction time
- Reduced utilization and maintenance costs

The problems with the mentioned criteria is, that they are just considered to a minimum extend due to the reduced weighting factor. This means overall the price is the only crucial factor. So in terms of thinking about new criteria also the weighting needs to be considered, to guarantee their contribution to the awarding of the contract, otherwise they can only be seen as dummy criteria.

## 3 METHOD

To gain further understanding for the general issue of the present used criteria for awarding construction contracts, Stabauer (2015) conducted a survey that was taken as a basis to identify potential new awarding criteria and establish quality criteria for construction sites.

The standardized questionnaires were answered by 40 experts, focused on the sense of general awarding criteria and the willingness to accept those criteria for future construction projects. Basing on the results of this research, new criteria were established, that focus on the construction process itself, in order to point out the possibilities to make construction sites more economical and environmental friendly with the introduction of new quality criteria.

## 4 APPROACHES FOR NEW CRITERIA

### 4.1 Guaranteed Certificate Success

An awarding criterion can be a certification system for the planning services, but also for the construction companies. The tenderer guarantees the certificate success in acceptance of his offer or a penalty for failure to not meet the target. For example green building certificates like the DGNB certificate from the German Association for Sustainable Buildings or the Austrian Sustainable Building Council – ÖGNI, are often used to indicate the sustainable performance of a building. These certificates are divided into three different performance levels: gold, silver and bronze, with gold for the maximum rating is and thus leads to the maximum number of points for this criterion, indicating the best sustainable performance. Tenderers with guaranteed success certificate silver or bronze will receive proportionately fewer points. The focus of the certification systems is, to focus and improve the entire lifecycle of a building. This criterion should already be included in the project development phase, and conducted in more detail during the planning phase, targeting the whole life cycle of a building.

### 4.2 Identified Errors in the Tender Documents

Errors within the tender documents are for example quantity changes that represent more than 20% of an item in the bill of quantities, the lack of items, wrong items, but also any faults that were not considered by the client and that would lead to disruptions within the construction process. The criterion “unidentified tendering errors” does not only aim to encourage planners to provide conscientious tender documents, but also to reward the “honesty” of contractors and support a cooperative working climate.

### 4.3 Technical Machinery Expertise

The criterion "technical equipment expertise" should be applied to increase the quality of construction works by the use of more modern machinery and techniques. Till (2015) mentions that another positive effect is, that the use of state of the art equipment will be more attractive for bidders.

It is intended that this criterion is used in the machine-intensive civil engineering such as road, rail, pipeline, and landfill construction. A table has to be provided by the client where the bidders are able to see how many points they get with the appropriate use of the required equipment.

The site supervision is in charge of reviewing the used equipment. It executes spot checks and imposes a penalty at three times infringement of the treaty.

### 4.4 Alternative Offers

An alternative offer is an alternate suggestion of the tenderer for improving the way a service is done. Those offers may be allowed by contracting authorities for contracts that are awarded according to the criterion of the technically and economically most advantageous tender. The client must explicitly specify in the tender if and what kind of alternative bids are allowed.

According to Gast (2006), if the client does not specify on the admissibility of alternative bids, variants are not permitted. In the tender documents he has to explain the minimum requirements of alternative offers in terms of their comparability of services and to designate, in what way these bids shall be submitted. In the procurement process, the client must only take those alternative offers into account, which meet the established minimum requirements.

### 4.4 Environmental-Friendly Execution of Construction Works

This criterion is aimed at the environmentally friendly construction performance. As a tool for awarding the contract, RUMBA (guidelines for Sustainable Construction Site Management) is mandatory. The advantage of using this issue is that the client is able to use a well-known catalogue and does not have to transpose and define own criteria, such as “low-dust construction site”.

Following objectives should be pursued to enhance the environmental performance issues of construction sites:

- Reduction of construction site traffic by avoiding and reducing the number of transportation operations or trying to shift transport to rail

- Increasing the recycling rate of construction waste by separated collecting
- Less noise, air pollution, greenhouse gas and light emissions
- Better urban design integration to minimize aesthetic disturbances

### 4.5 Work Safety and Health Protection

The aim of this criterion is to reduce the number of accidents on construction sites and to protect the life and limb of workers. According to the latest statistics published by the AUVA (Allgemeine Unfallversicherungsanstalt - the Austrian Workers' Compensation Board), one in five work accidents are happening on construction sites, which makes the accident rate in the construction industry approximately two and a half times higher than in other sectors.

In addition to the physical suffering, especially the financial aspect should not be underestimated. So does an average work accident in Austria cost 22.511 EUR. These costs result from the pensions, the accident medical care, as well as costs for businesses and other public areas.

The defined sub-criteria of this criterion form an action plan. The characteristics can be an addition to applicable laws, such as the worker protection and construction site coordination law, and therefore significantly contribute significantly to the reduction of labor accidents at construction sites. The contracting authority will need to define the weighting of the individual criteria, as this mainly depends on the type of the construction site.

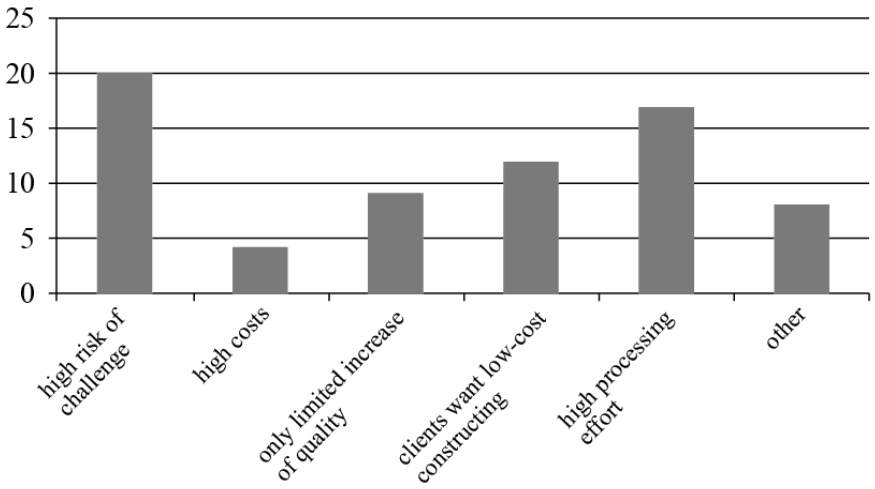


Figure 2. Problems with the implementation of quality criteria (Stabauer 2015).

## 5 DISCUSSION

Research as well as literature show, that the potential to introduce quality criteria in the tendering process is enormous and generally desired. Even though there are many proponents that require the application of quality criteria in a right weighing, many aspects haven't been clarified so far, so that there are still some uncertainties left.

Figure 2 shows that most of the questioned experts think, that there will be a high risk that tender decisions will be challenged, if awarding criteria are used. Also it is the general understanding that the cost for the procurement procedure will increase as a result of the higher efforts that have to be invested setting up a criteria catalogue, as well as the evaluation of the bids and the monitoring and controlling of implementation on the construction site.

Those facts compete with the facts that quality criteria, like "alternative offers", or "environmental-friendly execution of construction works" will not only improve the quality of building constructions, but also will relax the market situation and the price war between market participants. Also the decreasing price pressure on contractors will benefit the relations between clients and contractors.

## 6 CONCLUSION

The topic of awarding construction contracts to contractors with the lowest acquisition costs or to the ones with the most economically advantageous tender is heavily discussed. The process of tendering will have to be reconsidered since not only life-cycle-costs of buildings come into consideration, but also the ongoing price war between contractors is a growing issue in the construction industry.

If criteria, as the ones mentioned in this paper, are applied correctly, they can help to establish a tendering culture, that does not only award bids with the lowest acquisition costs, but also improve the general understanding that it is worth to also take economical factors into consideration in order to make construction processes more efficient, environmental-friendly and safer.

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