

# The best criteria for the selection of contractors in the Dutch construction industry!

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# THE BEST CRITERIA FOR THE SELECTION OF CONTRACTORS IN THE DUTCH CONSTRUCTION INDUSTRY!

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Selecting contractors in the Netherlands is often done by the criterion of lowest price. This leads to a lack of innovation and a loss of quality in the construction industry. From the field of purchasing and procurement, we learn that there are several theories and processes for finding the best contractor for the execution of a work. One of the steps in those processes is the assessment of the contractors on the basis of specific criteria. Which criteria have to be used depends on the wishes of the client. But what are, in general, the best criteria to use? Assessment is on the basis of which criterion or combination of criteria really says something about the quality of the cooperation and the final product. In this research, a comparison is made between the criteria that were found in literature with the criteria that were found during a study on the Dutch construction industry. The aim of this research is to find the best criteria for the selection of contractors in the Dutch construction industry.

Keywords: client, criteria, government, innovation, procurement, tendering.

## INTRODUCTION

The Dutch building industry is changing. Like in other countries, there are big programmes initiated by the government to improve the industry as a whole. One of the most important aspects of these programmes is the way that clients select and weigh up their partners. The partner, in this case is the contractor.

Building projects are getting more complex. Because of that, the contractors that build these projects have to meet specific demands. Nowadays, the most important criterion for tendering in the Dutch construction industry is price. This means that the contractor that offers the lowest price gets the work. In the Enquete Bouwnijverheid, performed by the Dutch Government in 2003, the disadvantages of this way of tendering are mentioned (Parlementaire Enquetecommissie Bouwnijverheid 2003). The research points out that the criterion of lowest price does not stimulate and augment the quality of the work and innovation in the building industry.

Also, because of the lowest price tendering, all contractors have to do exactly the same thing. Because of this, there are hardly any contractors with a particular expertise. This is very bad for innovation in the industry. This way of tendering also leads to highly divided responsibilities and in a lot of cases bad relationships between

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contractor and client. These bad relationships are a result of the fact that contractors try to come up with the lowest possible price. When they have the lowest price in the tender, they are allowed to build the project. During the project, the contractor tries to earn as much extra money as possible. When, for example, the client wants to make a little change in the design, the contractor will ask a lot of money for that. Most of the time he will ask for more money than he really needs to fulfil that job. This will lead to distrust, unpleasant situations and negative energy.

To conclude we can say that lowest price tendering might not be the best way to select a contractor. It would be better to select a contractor and build in a team where the participants can trust each other, and work for the same goal. That will lead to better working situations and more value for every partner in the team.

The question is then: which criteria have to be used to select a contractor in order to reach your aim and create the best value for your organization? In this paper, an overview of existing literature in the field of criteria for supplier selection is compared with a study that was done on the Dutch construction industry. The findings of this research result in recommendations for Dutch clients: which are the best criteria to use in the contractor selection process?

## **THE CONTRACTOR SELECTION**

One of the most important steps in every production process is the selection of a supplier. In the construction industry, very difficult, unique products have to be developed. In the construction industry, one of the suppliers is the contractor. He is responsible for the execution of the work.

Although there are a lot of differences between the construction industry and other industries, the principle of selecting suppliers is the same: a client buys a product from a supplier. The whole process of supplier selection has been discussed in literature for several years. Van Weele has developed a purchasing model that includes the following steps:

1. Determining specification
2. Selecting supplier
3. Contracting
4. Ordering
5. Expediting and evaluation
6. Follow-up and evaluation

Another model for contractor selection is developed by Momme and Hvolby (2002) and is called the outsourcing framework. It contains the following steps:

1. Competence analysis
2. Assessment and approval
3. Contract negotiation
4. Project execution and transfer
5. Managing relationship
6. Contract termination

In each second step of these processes respectively 'Selecting supplier' and 'Assessment and approval', the determination of criteria for the selection is a very important issue. The problem here is that neither Van Weele nor Momme give the best criteria. In the next paragraph, an overview is given of the literature that handles the right criteria for supplier selection.

## **THE CRITERIA**

In the past 40 years, a lot of research has been done on the issue of criteria for supplier selection. One of the first authors to write on this topic was Dickson (1966). He indicated 23 supplier selection criteria. According to Dickson, cost, quality and delivery performance are the most important criteria. More recent research, done by Choy *et al.* (2003), identifies 18 criteria that were divided into seven groups. Jain *et al.* (2007) formulated groups with six main categories:

1. Cost
2. Quality
3. Cycle time
4. Service
5. Relationship
6. Organizational profile

In this research these groups and the criteria that are in these groups will be used.

## **METHODOLOGY**

### **Step 1: expert panel**

The first step in this research was a workshop in which 15 experts from the construction industry were asked to share their most important criteria for selecting a supplier in construction. The workshop was held as part of a congress at the University of Eindhoven on 2 June 2005. The 15 experts were asked to write down their most important criteria for the selection of a supplier. Doing this, a list of criteria was collected that was completed and refined by a monologue by each of the experts in which the expert was able to explain what his most important values in the process of selecting a supplier were. This collection of 51 criteria is grouped conformable to the categories of Jain *et al.* (2007).

### **Step 2: survey**

The list of criteria that was collected by the expert panel of step 1 was the input for a big survey that was held among over 100 respondents from the Dutch construction industry. This survey was held during a congress at the University of Eindhoven on 8 June 2006. In this survey, the respondents, all professionals from the building industry and students, were asked to rank the criteria on a scale from 1 to 4 (not important – reasonably important – important – highly important). There were 111 respondents, of which 25 were students. Because of their lack of experience in the industry, their responses were not used. So, at the end, the responses of 86 respondents were used.

The survey included 12 criteria. These criteria were filtered out of the list that was the result of step 1 by comparing the supplier selection criteria of Jain *et al.* with the list of the expert panel.

## RESULTS

### Step 1: expert panel

The criteria that were collected during the workshop with the expert panel can be seen in Table 1. The criteria are compared to the criteria that Jain *et al.* determined. From this comparison, 12 criteria are chosen for the next step in the research, the survey. These 12 criteria are a direct match between the criteria of Jain *et al.* and the criteria from the expert panel. For the criterion of ‘Cycle time’ that Jain *et al.* collected, no match was found, therefore that criterion was not taken into account for the survey. The criterion of financial stability that was found by Jain has not been named by the expert panel, but because of its importance in the process of selection, that criterion was added to the survey.

**Table 1:** Comparison of the criteria from Jain and the criteria from the expert panel

| Jain <i>et al.</i> (2007)   | Expert panel grouped by Jain                                 |
|---|--|
| Cost  | Cost   |
| <i>Price</i>  | <i>Price/quality ratio</i>                                   |
| Logistics costs (transportation, inventory, administration, Customs, risk and damage, handling and packing) |  |
| Operating costs   |  |
| After sales service costs   |  |
| Relationship  | Relationship   |
| Visitation to supplier facilities   | Accessibility  |
| <i>Trust and partnership</i>  | <i>Trust</i>   |
| <i>Compatibility across levels and functions of buyer and supplier firms</i>                                | <i>Match</i>   |
| Business references   | Respect  |
| Supplier’s customer base  | Personal cooperation   |
| Financial stability   |  |
| Strategic contribution  | Fun  |
| <i>Reliability</i>  | <i>Reliability</i>   |
| <i>Expectation of continuity</i>  | <i>Reciprocity</i>   |
| <i>Dependability</i>  | <i>We are not able to do it on our own</i>                   |
| Need identification ability   | Good feeling   |
| Cultural similarity   | Going for the same goal                                      |
| Negotiable ability  | No nonsense approach   |
| Amount of past business   | Enthusiasm   |
| Ability to maintain commercial relations  | Culture  |
| Supplier availability   | Damage risk  |
| Industrial relations  | Dependence   |
| Risks   | Returns  |
|   | Openness   |
|   | Partner must be able to complement me                        |
|   | Partner has to do one’s best                                 |
|   | The project and the objectives must fit the company’s values |
|   | Added value: win-win   |

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|   |   |
|---|---|
|   | <p>Synergy<br/> Open communication<br/> Ethics<br/> Cooperation on the basis of equivalence<br/> Not being corrupt<br/> Long-term relationships<br/> Mutual dependence<br/> Loyalty<br/> Mutual interests<br/> Communication<br/> No frustrations<br/> Expectancy</p>   |
| <p>Quality<br/> <i>Quality performance (e.g. ISO 9000 accreditation)</i><br/> Marketability<br/> Durability<br/> Ergonomic qualities<br/> <i>Flexibility of operation</i><br/> Simplicity of operation<br/> Reliability</p>   | <p>Quality<br/> <i>Quality</i><br/> good processes<br/> <br/> <i>No concerns/worries</i></p>  |
| <p>Organization<br/> <i>Performance history</i><br/> Future technology (e.g. investment in R&amp;D)<br/> Management capability<br/> Geographical location<br/> Environment performance (e.g. ISO 14001 certification)<br/> Human resource practices<br/> Supplier management<br/> Financial management systems<br/> Production facilities and capacity<br/> <i>Position in the industry and reputation</i><br/> Current technology (product, process)<br/> Physical size/growth<br/> Technological capabilities<br/> Innovativeness<br/> EDI capability</p> | <p>Organization<br/> <i>Experience</i><br/> Expertise<br/> <br/> Specialism<br/> Partner has to come up with intelligent solutions<br/> Improving processes<br/> <br/> Juridical<br/> Bring together technique and politics<br/> Complexity<br/> <br/> <i>Image</i><br/> <br/> Cooperation: the content<br/> Innovation</p> |
| <p>Service<br/> <i>Reaction to demand</i><br/> Ability to modify product<br/> Supply variety<br/> Technical support<br/> After sales services (e.g. warranties and claims policies)<br/> Flexibility (payment, freight, price reduction, order frequency &amp; amount)<br/> Delivery frequency</p>  | <p>Service<br/> <i>Cooperation: organizational</i><br/> Appointments</p>  |
| <p>Cycle time<br/> Speed to market</p>  | <p>Cycle time</p>   |

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Delivery lead time  
Development speed  
On time delivery  
Fill rate

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**Step 2: survey**

The comparison of step 1 (Table 1) results in 12 criteria that were the subject of a survey. In Table 2, these criteria are shown. In the survey, 86 professionals from the Dutch construction industry could rank these criteria on a scale of 1 to 4. The results of this survey can be seen in Table 3.

**Table 2:** The criteria for survey 1

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- Price
  - Quality
  - Good cooperation
  - Creditworthiness
  - No nonsense
  - A good match
  - A partner is able to do something that we can not do
  - Trust
  - Experience
  - Reciprocity
  - Image of a partner
  - Reliability
- 

The results in Table 3 give an insight into the way the Dutch professionals think about these criteria. The range of the answers is very wide. Because of that, it was only possible to determine the mean of all the rankings.

**Table 3:** The results of survey 1

| Criterion  | Modus                |                        | Mean             |                  |                             |                     |
|--|----------------------|------------------------|------------------|------------------|-----------------------------|---------------------|
|  | All participants     | All participants (111) | Contractors (22) | Consultants (41) | Real estate developers (11) | Public clients (12) |
| Price  | Important            | 2,92                   | 2,86             | 2,95             | 3,00                        | 3,00                |
| Quality  | Highly important     | 3,74                   | 3,68             | 3,76             | 3,82                        | 3,75                |
| a good cooperation                                   | Important            | 3,17                   | 3,09             | 3,15             | 3,09                        | 3,00                |
| Credit-worthiness                                    | Important            | 2,85                   | 2,95             | 3,05             | 3,09                        | 3,00                |
| No nonsense  | Important            | 2,74                   | 2,68             | 2,66             | 2,45                        | 2,5                 |
| A good match   | Important            | 3,36                   | 3,32             | 3,39             | 3,36                        | 3,33                |
| A partner is able to do something that we can not do | Important            | 3,17                   | 3,23             | 3,17             | 3,36                        | 3,42                |
| Trust  | Highly important     | 3,8                    | 3,86             | 3,83             | 4                           | 4,00                |
| Experience (references)                              | Reasonably important | 2,4                    | 2,23             | 2,27             | 2,55                        | 2,50                |
| Reciprocity  | Important            | 2,74                   | 2,86             | 2,78             | 2,73                        | 2,75                |
| Image of a partner                                   | Reasonably important | 2,49                   | 2,41             | 2,37             | 2,64                        | 2,58                |

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|             |                  |     |      |      |      |      |
|-------------|------------------|-----|------|------|------|------|
| Reliability | Highly important | 3,8 | 3,82 | 3,85 | 3,91 | 3,83 |
|-------------|------------------|-----|------|------|------|------|

## DISCUSSION

In the field of procurement and purchasing, a lot of models are being developed that can help businesses with the selection of suppliers. In most of those models, the criteria for selection play an important role. In this study, a comparison is made of some existing literature from the field of supplier selection with research that has been done in the Dutch construction industry. The criteria that were found in literature for selecting a supplier have been compared with the criteria that were found in Dutch construction for selecting a contractor. From this comparison it can be said that there are a lot of similarities. The ranking of the criteria, however, was very difficult. Probably, the reason for that was the fact that the 86 respondents who ranked the criteria were not working in the same projects and in the same companies. For every new project, the client has to rank the criteria again, because every project has its own characteristics. Because of the similarities between the existing literature on the criteria for selecting suppliers, it can be said these criteria are very useful for selecting contractors in the Netherlands.

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