Transparency considerations using MEAT Criteria

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Public Procurement Research Centre

A cooperation between the University of Utrecht and the University of Twente
THE AGENDA FOR TODAY

The setting: the award phase of a tender

- The role of weights
- European Court of Justice: Dimarso
- Score graphs
- Relative scoring
- Lower bounds on quality

- Conclusion
The setting: the award phase of a tender
THE AWARD PHASE OF A TENDER

Possibilities in the award phase

- Best price quality ratio
- Life cycle cost
- Price only

Most economically advantageous tender
## SCORING

<table>
<thead>
<tr>
<th>criterion</th>
<th>max. points</th>
<th>bids</th>
<th>scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>price</td>
<td>60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>quality</td>
<td>30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>delivery time</td>
<td>10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>price</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td></td>
<td>3000</td>
<td>4000</td>
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<td>2500</td>
<td></td>
<td>30</td>
<td>6</td>
<td>48</td>
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<tr>
<td>quality</td>
<td>good</td>
<td>excellent</td>
<td>fair</td>
<td>OK</td>
<td></td>
<td>24</td>
<td>30</td>
<td>12</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>2 weeks</td>
<td>3 weeks</td>
<td>2 weeks</td>
<td>3 weeks</td>
<td></td>
<td>5</td>
<td>1</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>delivery time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>total</td>
<td>59</td>
<td>37</td>
<td>65</td>
</tr>
</tbody>
</table>

The total scores range from a minimum of 55 to a maximum of 65.
Weights: One example – 3 lessons
EU directives basically require:

1. Publication of award criteria
2. Publication of (relative) weights

All very transparent !!

So let us do exactly that …..
Tendering for vehicles

Award criteria and their weights:

- Price: 80%
- Delivery time: 20%

<table>
<thead>
<tr>
<th>Per vehicle</th>
<th>Price</th>
<th>Delivery time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bid 1</td>
<td>$18,000</td>
<td>10 weeks</td>
</tr>
<tr>
<td>Bid 2</td>
<td>$13,000</td>
<td>16 weeks</td>
</tr>
</tbody>
</table>

Which bid wins?
WEIGHTS: ONE EXAMPLE - 3 LESSONS

Scoring rules:
- **Price**: 80 points at $0, 0 points at $80,000
- **Delivery time**: 20 points at 0 weeks, 0 points at 20 weeks

<table>
<thead>
<tr>
<th>Per vehicle</th>
<th>Price</th>
<th>Delivery time</th>
<th>Price points</th>
<th>Delivery time points</th>
<th>Total points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bid 1</td>
<td>$18,000</td>
<td>10 weeks</td>
<td>62</td>
<td>10</td>
<td>72</td>
</tr>
<tr>
<td>Bid 2</td>
<td>$13,000</td>
<td>16 weeks</td>
<td>67</td>
<td>4</td>
<td>71</td>
</tr>
</tbody>
</table>
### Scoring rules:

- **Price**: 80 points at $0, 0 points at $20,000
- **Delivery time**: 20 points at 0 weeks, 0 points at 20 weeks

<table>
<thead>
<tr>
<th>Per vehicle</th>
<th>Price</th>
<th>Delivery time</th>
<th>Price points</th>
<th>Delivery time points</th>
<th>Total points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bid 1</td>
<td>$18,000</td>
<td>10 weeks</td>
<td>8</td>
<td>10</td>
<td>18</td>
</tr>
<tr>
<td>Bid 2</td>
<td>$13,000</td>
<td>16 weeks</td>
<td>28</td>
<td>4</td>
<td>32</td>
</tr>
</tbody>
</table>
WEIGHTS: ONE EXAMPLE - 3 LESSONS

Price vs Score

Bid 1
Bid 2
Lesson 1: Favouritism/Fraud.

You can make every bid win

by judiciously choosing the scoring method (afterwards)
WEIGHTS: ONE EXAMPLE - 3 LESSONS

score

price

Bid 1

Bid 2
WEIGHTS: ONE EXAMPLE - 3 LESSONS

**Lesson 1: Favouritism/Fraud.** You can make every bid win by judiciously choosing the scoring method (afterwards)

**Lesson 2: Weights do not matter.** Even at 80% weight on price we can make price irrelevant – replace $80,000 by $80,000,000 (same happens with weights of 90, 95 or even 99% …)

**Lesson 3: Stupid buyer.** Bids 1 and 2 may be options for the same supplier. By not mentioning the scoring rule you may deprive yourself of a better bid!

Always mention/publish the scoring rule
Dimarso
Article 53(2) of Directive 2004/18/EC of the European Parliament and of the Council of 31 March 2004 on the coordination of procedures for the award of public works contracts, public supply contracts and public service contracts, read in the light of the principle of equal treatment and of the consequent obligation of transparency, must be interpreted as meaning that, in the case of a public service contract to be awarded pursuant to the criterion of the most economically advantageous tender in the opinion of the contracting authority, that authority is NOT required to bring to the attention of potential tenderers, in the contract notice or the tender specifications relating to the contract at issue, the method of evaluation used by the contracting authority in order to specifically evaluate and rank the tenders.
26 The Court has accepted that it is possible for a contracting authority to determine, after expiry of the time limit for submitting tenders, weighting factors for the sub-criteria which correspond in essence to the criteria previously brought to the tenderers’ attention, provided that three conditions are met, namely that that subsequent determination (1) does not alter the criteria for the award of the contract set out in the tender specifications or contract notice; (2) does not contain elements which, if they had been known at the time the tenders were prepared, could have affected their preparation; and, (3) was not adopted on the basis of matters likely to give rise to discrimination against one of the tenderers.

27 However, neither Article 53(2) of Directive 2004/18 nor any other provision thereof lays down an obligation on the contracting authority to bring to the attention of potential tenderers, by publication in the contract notice or in the tender specifications, the method of evaluation applied by the contracting authority in order to effectively evaluate and assess the tenders in the light of the award criteria of the contract and of their relative weighting established in advance in the documentation relating to the contract in question.
Contracting authorities do not have to publish the scoring rules
Unless ……. it makes a difference

But it always makes a difference …….!

So: Dimarso is nonsense
Scoring
SCORING REQUIRES SCORE GRAPHS

Score graphs are essential:

• For technical purposes
• To facilitate communication between purchaser and (internal) client
• And with bidders

They are a purchaser’s prime tool!

A purchaser’s main job is to get the score graphs out of his/her organisation.

Score graphs represent the values/valuation of the organisation (in economic theory: utility curves)

• As a consequence they are not good or bad
• But they may give the wrong impression of an organisation’s values
LET’S TRY

Sketch score graphs for:

1. In buying a car for your partner one of the award criteria is the car’s maximum speed (there are many other including cost etc.)

2. In deciding about your next summer holiday destination one of the award criteria is the predicted average temperature

3. In deciding whom to marry one of your award criteria is the amount of money the other person has in his/her bank account (obviously there are other criteria as well)
Relative scoring
Relative scoring is scoring (per criterion) relative to other bids coming in.

- Can be done on price as well as all other criteria
- Many methods available

Most frequently used (sometimes even mandatory):

\[
\text{Price score } i = [\text{max points}] \times \left[ \frac{\text{Price } i}{\text{Best price}} \right]
\]
### RELATIVE SCORING IN ACTION

#### 2 Bidders

<table>
<thead>
<tr>
<th>Bidder</th>
<th>Price</th>
<th>Score price</th>
<th>Score quality</th>
<th>Total score</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>€ 500</td>
<td>80</td>
<td>95</td>
<td>175</td>
</tr>
<tr>
<td>B</td>
<td>€ 400</td>
<td>100</td>
<td>80</td>
<td>180</td>
</tr>
</tbody>
</table>

\[ \Delta_{\text{score price}} = 20 \text{ points} \]

- Inschrijver B wint

#### 3 Bidders

<table>
<thead>
<tr>
<th>Bidder</th>
<th>Price</th>
<th>Score price</th>
<th>Score quality</th>
<th>Total score</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>€ 500</td>
<td>40</td>
<td>95</td>
<td>135</td>
</tr>
<tr>
<td>B</td>
<td>€ 400</td>
<td>50</td>
<td>80</td>
<td>130</td>
</tr>
<tr>
<td>C</td>
<td>€ 200</td>
<td>100</td>
<td>20</td>
<td>120</td>
</tr>
</tbody>
</table>

\[ \Delta_{\text{score price}} = 10 \text{ points} \]

- Inschrijver A wint

*Note: not the winner*
RELATIVE SCORING CONSEQUENCES

- Changing evaluation of the bids
- Changing evaluation of the difference in score of the bids
- Which may lead to ‘rank reversal’

Does it lead to rank reversal? Depends on the bids

Analysis:
- 300 real tenders with this formula (Dutch government); different items
- Supplemented by simulation

Results:
- Removing a bid: 3% in practice – 7% in simulations
- Adding a bid: 20% in practice – 30% in simulations
MORE ON THIS FORMULA

- Most frequently used (sometimes even mandatory):

\[
\text{Price score } i = \text{[max points]} \times \frac{\text{Best price}}{\text{Price } i}
\]

Did you notice it is hyperbolic formula?
HYPERBOLIC SCORE GRAPH

score

Best price

price
Minimum quality levels
We really want to have good quality and avoid excessive price pressure.

- So we set weights for price:quality at 40:60
- And we require a minimum score of 7 (on a 0-10 scale) for quality.

- Acceptable quality scores range from 7-10: a maximum difference of 3
- At 60% weight the maximum difference in the final score is 18 points

- Price scores range from 0-100
- At 40% weight this translates in the final score into 40 points

- Which is more than twice the amount of points available for the quality score
- **Contradicts the 40:60 starting point**
THE SITUATION AND THE REMEDY

![Graph showing the relationship between score and quality, with a shaded area labeled "unacceptable".]
Conclusion
CONCLUSION

Many issues in award phase of a MEAT tender
  • Known from Decision Sciences
  • But hardly adapted in Purchasing / Public Procurement
  • Many errors/mistakes/stupidities in practice …..
    • But most go unnoticed …..

Surprisingly little attention for award phase in EU directives
  • Even though most court cases are about this phase
  • Knowledge from decision theory not incorporated
  • And disregarded in legal rulings
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