NOVELTIES IN THE TOOLKIT TO CURB PUBLIC PROCUREMENT CORRUPTION IN A 'NEWBORN' EUROPEAN UNION COUNTRY

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ABSTRACT. On the basis of investigations regarding corruption in the field of procurement it can be stated that the process of public procurement is a 'highly endangered AREA'. Our experiences with curbing procurement corruption in Hungary – a former Eastern-block country who recently joined the EU – strengthens the view that by raising the level of evaluation practices through the use of decision support methodologies the possible damaging effects of corrupt motivations can be highly narrowed. This potential can be realized only if legal regulations provide a supportive frame, organizational culture can be shaped to accommodate new decision practices and necessary education is available. This paper reports a coordinated experiment investigating the synergetic effect of these conditions allowing decision technologies to display reinforced results in limiting the potential damage of corruption.

AN HISTORICAL INTRODUCTION

In Greek mythology, the roots of the Troyan war lie in a 'beauty contest' between three goddesses: Hera, Athena, and Aphrodite. Paris was commanded by Zeus to decide the issue of who 'the fairest goddess' is. In order to win the contest, Hera promised Paris power, Athena promised him wealth, while Aphrodite promised the most beautiful woman in the world.[1] The moral of the story seems to be, that unethically influencing the decision maker is as old as human civilization. In fact, according to Horne (1915) already Hammurapi's code, written in the 18th century

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B.C.[2] to govern the life of Babylon contained rules that can be interpreted as being aimed at holding back corruption: "Deprivation of office in perpetuity fell upon the corrupt judge."[3]

The situation has not changed much since the time of the Babylonians. 4,000 years has passed and now, at the dawn of the 3rd Millennium the issue of corruption seems more prevalent than ever before. Corruption might be difficult to define precisely (for various approaches look at Søreide (2002) or UNODC (2004) as well as others) but its damaging effect would be hard to neglect. Public procurement is an especially problem ridden area. Although its forms, extent and drawbacks vary from country to country, surveys reveal – e.g. Transparency International (2004) –, that there are hardly any nations untouched. However, as the efforts of the Babylonian King shows, fighting corruption is just as old as the epidemic itself. There are more and more tools and successful examples how to effectively fight corruption (Lai (2002), Søreide (2002), UNODC (2004), just to name a few).

In this article we will look at technical ways to curb corruption in public procurement using non-legal solutions based on decision technological ideas. These solutions have been successfully applied in curbing corruption in Hungarian public (and private) procurement activities as well as during the law-making process. After 18 years of supporting decision making in procurement procedures and international bidding processes in Hungary our Decision Technologies Research Group (DTRG) has a fair amount of experience regarding the potential of decision processes and decision support tools in curbing corrupt practices. We argue for the use and benefits of proper decision analysis solutions as a good decision support methodology has the ability to curb corrupt efforts during public procurement procedures. Furthermore, we will show that this effect develops in a fairly complex space created by the law, corporate transformation, education, software tools and so on. Constantly monitoring our consulting activity and evaluating both our successes and failures not only led to a wide range of lessons but it also gave us a strong basis to list a few recommendations.

In the second section of this paper we look at the history of public procurement in Hungary. Then, in the third section we introduce our background as well as the decision support methodology and software tool we have developed. Section four presents our experiences with applying our approach and know-how in the public procurement arena

during various projects to fight corruption and we will look at a few important preconditions of success. We finish with our recommendations.

THE CASE OF HUNGARY

A Historical Moment

Let us continue with another milestone, this time from the very recent past: Hungary – a former 'socialist' and now called 'transition' country – became a member of the European Union (EU) May 1st, 2004. This expansion was a major step in the history of the Union as the number of member states jumped from 15 to 25 while the territory and population has increased considerably as well. The accession of Hungary was well prepared yet it still came with quite a few immediate changes regarding the legal environment.

As an important component of harmonizing legal regulations, the national Act on Public Procurement had been amended to line up with EU directives. New legal and procedural requirements were put in place seriously affecting both tender issuers and bidders as well as existing procurement practices.

As one of the main differences compared to the earlier law in effect, according to EU policies private companies in the *energy and utilities* sector now fall under public procurement regulations regarding purchases related to their main business. The nature of the change also meant for example, that former restrictions on bid evaluation methods were lifted.

Current Situation in Hungary – Anticorruption Efforts

On the basis of UN investigations regarding corruption in the field of procurement it can be stated that the process of public procurement is a 'highly infected and endangered area' all around the world – including Hungary (GPAC (2004)).

According to a World Bank survey conducted in 2000 and reported in Helmann et al (2000)**,** Hungary is not doing 'that bad' compared to other former transition countries: out of 20 transition states, Hungary is usually in the last quarter along various indicators if the most 'infected' is the first.

Nevertheless, the main forms of existing public procurement corruption include (Proceedings of the National Conference for Cleaner Public Life (2003)):

- Shaping the rules (influence the law-making process);
- Forming cartels (by the bidders);
- Graft in procurement: bribe the decision maker/issuer in order to win (on the part of the bidder);
- Favor relatives or relations (on the part of the issuer);
- Counter-selection of experts participating in the procurement activity (on the part of the issuer);
- Playing with time or claim special conditions so one can use exemplary rules of the law (on the part of the issuer).

The changes in public procurement regulations that followed the accession of Hungary to the European Union arrived at a time when another major public procurement related project had been already underway: Hungary has been a pilot state in the UN Office on Drugs and Crime (UNODC) anticorruption initiative called the Global Programme against Corruption since 1999 (GPAC (2004)). Results of the work done was presented at the National Conference for Cleaner Public Life held in Budapest, 20-21 March 2003, where action plans for the future were also devised (for more details see the corresponding Proceedings (2003)).

As part of the GPAC pilot in Hungary the workshop „Solutions and Methods to Fight Corruption in Procurement Procedures" was organized at Budapest University of Technology and Economics (BUTE) in September 2003 with several national and international organizations invited. The goal of the workshop was to exchange experiences and best practices on how to efficiently contain procurement corruption and to initiate programs to achieve a wider application of proven methods. Decision methodologies got special focus at this workshop and the authors of this article presented their own methodology they had developed.

APPLICATION OF DECISION TECHNOLOGIES IN PROCUREMENT

Procurement Decision Support Research and Consulting

Based on its constant research and software development activities our Research Group in cooperation with a private partner has worked as

decision analysts for different organizations including governmental bodies mainly in the area of competitive bidding for almost two decades.

This practice started eighteen years ago with the development of a Group Decision Support System (GDSS) software that intended to be a generic decision support solution (Gelléri & Martinez (1986) and (1987)). The first real application came from the field of procurement support and meeting the challenges of 'reality' shaped the final functionality – and then on the history – of the tool. The problems raised by the consulting practice and the special needs recognized led to further continuous research and development activity that resulted in both improvements to the decision making process and new generations of the software tool with an expanding set of dedicated features. The group has completed numerous decision support projects using various versions of this software fitted to the special characteristics of procurement decision processes. A good summary of the results is Gelléri & Csáki (2003).

Our know-how shaped during the years consists of three main parts: it determines a specific workflow, it applies a group meeting element and it is supported by a dedicated software tool.

A Procurement Group Decision Support System

As mentioned earlier, our GDSS software was originally designed to be a 'generic' decision support tool (the inspiration came from the MAUD system – Humphreys & McFadden (1980)). However, the Tender-EXPERT system that has unfolded from the history became specialized. This multi-criteria based GDSS allows the rapid development of a structured decision space for a certain decision situation (problem) class. This problem class can be characterized as follows: it is a 'one winner' selection process from known alternatives using a unified criteria system – as it is required by the procurement logic. The first version of the tool was accepted by the World Bank to be used in World Bank financed Hungarian bidding projects back in the late eighties. Since this paper is concerned with the experiences resulted from the application of the tool, there is no room here to provide – otherwise important – details of the development or special capabilities of the software.

Main features of the tool include:

- building a tree-like attribute structure (virtually unlimited levels and sub-branches); adding weights to attributes (same for group);
- evaluation of alternatives at each leaf criteria using utility functions; handling multiple experts (virtually unlimited number);
- defining competency and voting power of experts (for branches and sub-branches–or even on a per attribute basis);
- fine-tuning of the requirements structure;
- the issuer may run sensitivity analysis according to his goals and preferences;
- support of experts' scoring work by various input methods;
- calculation of the final score is based on weighted sum of leaf criteria points (using a weighted average of experts' votes);
- evaluation of experts' work to identify potential favoritism or incompetence.

Decision Analysis Methodology to Support Procurement

Procurement procedures are group processes in two sense: various organizational leaders (managers, officials etc.) meet and their interest clash during the process on the one hand, and to make the proper decision usually requires a wide range of expertise to be handled on the other. Negotiations among the stakeholders as well as among the experts are aided by a facilitator and are also supported by the tool.

The decision-making workflow has to consider the workflow of the procurement process. There are two points where the expert team and the tool is applied: when assembling the attribute structure and during the evaluation of the bids. The solution also ensures that the procedure complies with regulations. It also has to introduce measures to make sure that the issuer will not face valid legal challenges from non-winning bidders.

The know-how employs a specialized version of the Decision Conferencing methodology of Phillips (1984), led by a decision analyst playing the role of facilitator. During tender discussions executed within the frame of a decision conference we apply (under the control of a trained person) the software tool dedicated to the development of evaluation attributes.

Although there are various solutions to curb corruption, we have found that proper decision practices can ensure that *only high quality bids may win*. All similar decision analysis solutions capable of

supporting the procurement process and specifically designed to help the development of evaluation criteria has the ability to narrow the playing field of corrupt activities.

However, the motivation and circumstances determining whether such tools with promising effects are actually used, as well as the success of their application depends on several interplaying *conditions*. A few of these conditions are 'traditional' anticorruption instruments in themselves, while others are less straightforward.

DECISION TECHNOLOGIES IN CURBING PROCUREMENT CORRUPTION IN HUNGARY

'Traditional' Instruments to Curb Corruption

Most anticorruption initiatives and strategies rely on legal instruments, ethical codes and other vehicles of a similar nature. The recently published Anticorruption Toolkit of UNODC (2004) devotes one section to public procurement out of some 44 tools aimed at supporting anticorruption efforts in general. Their major recommendations include the establishment, dissemination, discussion and enforcement of legal and ethical control and disciplinary mechanisms (like a citizens' charter or complaint mechanism) augmented with an independent comprehensive assessment.

One of the most elaborate work known to us on the topic, Søreide (2002) lists the following strategies as being important to reduce opportunities for procurement related corruption in the public arena.

- Disturbance of corrupt relationships by the simplification of rules, benchmarking of prices, supplementary works;
- rules for exceptional cases;
- transparency and control of discretional power by enabling inspection;
- establishing codes of conduct and rules of disqualification;
- ensuring (international) competition and technological competence (like private expertise) to impede corruption and to ensure quality as well as to avoid supply-chain corruption;
- allow tenders on the Internet;
- control the supply side of corruption: lower the role of agents, middlemen and "fronts", establish company responsibility and white lists with self certification and anti-bribery commitments;

- ensure proper inspection mechanisms to detecting corruption.

Education is also widely considered to be effective – although its efforts may only bear fruits over the long run.

The basic Certificate course in Purchasing and Supply offered by The Chartered Institute of Purchasing and Supply (CIPS - UK) discusses the ethics of purchasing right in the first workbook (CIPS (2002)). As they state on page 102 of Workbook Module 1: "Certain aspects of ethics are covered by law, such as fraud, bribery and corruption, but purchasing and supply ethics go beyond legal requirements". CIPS have also developed and publicized an Ethical Code (see the same reference or their web page www.cips.org).

The 2nd Master Training Seminar on Curbing Corruption in Public Procurement organized by the ADB & OECD (2004) aimed at identifying tools that can assist in reinforcing "due diligence" such as

- the design of a sound procurement procedure in line with business integrity management and the implementation of anticorruption programs based on the analysis of public reforms and private initiatives;
- introduction of tools to identify and prevent corruption at key steps of the public procurement project cycle, namely
  - "Independent Procurement Reviews" used for ex-post evaluation,
  - "Documentary Verification of Procurement Processes" used to conduct on-going checks, and
  - "Risk Profiling of Implementing Agencies" as a tool for ex-ante identification.

There are movements on the Internet as well like the "Round Table Initiative" called 'Strengthening Procurement Capacities in Developing Countries' (http://webdomino1.oecd.org/COMNET/DCD/ ProcurementCWS.nsf).

On the basis of our experiences in Hungary our opinion is that although legal instruments and control have a considerable deterring effect on potentially corrupt behavior, there are other solutions to be considered. The government as well as associations and educational institutions involved has the potential power to change the culture of decision practices through influencing factors (like setting best practice examples and providing accessible support in the form of knowledge,

expertise and methodology) and thus can play an important role in directing participating parties towards appropriate behavior and in shaping attitudes. However, there is another avenue that usually receives less attention or is even neglected despite its potential to increase transparency and to *limit the effects* of corrupt actions, namely the application of proper decision making practices.

In our anticorruption efforts we have worked with issuers to apply appropriate decision making practices and had an opportunity to investigate the following conditions that could help them to succeed:

- the law needs to be influenced into a direction that ensures a legal environment able to recognize the importance of the above and does not restrict the applicable decision methodology (area of the decision analysis profession);
- reshape organizational procurement decision making practices;
- need to focus on the dissemination of appropriate decision making practices: books, education, software and so on;
- consider synergetic effects of available options.

In the following subsections we will look at our experiences how above areas may be used to work together.

Quality Decision-Making Technologies as Anticorruption Tools

Without underestimating the power of legal and ethical options, we have found that for the case of Hungary raising the level of professionalism and the quality of content during the procurement activity is an effective solution in changing the situation.

According to our experience, holding a firm hand on decision making processes – especially if it is done by following high quality methodologies and evaluation practices – and using software necessarily has the effect of substantially reducing the room for corrupt behavior. It might not reduce the tension present among the participants during the competition – and it does not necessarily make them ‘feel better’ either –, but it can ensure a much more effective use of public founds.

Quality Decision Making tools have the immediate and certain effect of lowering the impact of corruption by controlling the room for frauds through raising transparency and ensuring controlled evaluation. It may not result in fewer attempts or lower amounts in bribes but can definitely lower the degree of the damage. This is achieved because it would not be

possible to favor a weak or mediocre bid: following proper decision making practices and evaluation methodologies leads to the selection of *any of the strong bids* only.

However, our experiences suggest that these tools have a better chance to be spread widely and to succeed if the law creates a suitable background for its application and other factors come together as well.

Evaluation Methodologies and the Law

We had the opportunity to raise our views about the capabilities of decision technological solutions during the preparation of the new EU-conform Hungarian Act of Public Procurement. We have successfully 'lobbied' lawmakers to include passages that support the application of sound decision methods during the tender preparation and the bid evaluation process.

We have also provided detailed methodological guidelines as a complementary reference to the Act.

By methodology we mean more than just methods used during the evaluation of the bids to calculate their score: it covers the way experts work together, documentation requirements, how to define evaluation criteria, how to determine the weights of criteria and so on.

We have recommended that it was important to avoid over-regulation (which was typical of former Hungarian Procurement Acts) as well as under-regulation (usually fought for by lobby groups). By over-regulation we mean regulating a certain aspect in details that cannot fit every project.

If the law contains methodological components, it is also necessary to avoid simplification in order to have easily followed regulations as complex problems cannot always be handled in simple manner or using simple solutions. The law should not force one particular method, instead, it should allow for a scale of techniques that can be fit to the type and complexity of individual procurement projects.

It is necessary to emphasize that even the simplest (full) methodology has to adhere to some expressed basic rules to avoid the possibility of corruption. Among them are:

- each different expert area necessary should be represented during both the preparation and the evaluation phase. Experts should vote

individually on criteria belonging to their area of competence (representing their own opinion reflected in the documentation);
- acceptable values of individual criterion (attributes) should be limited to a realistic interval meaningful to the issuer;
- weights should be defined such that they reflect the importance of the criteria to the issuer.

At the other end of the scale, for large and complex tenders the use of utility functions should be preferred, for instance. Finally, as it is suggested by the methodological recommendation issued by the Hungarian Public Procurement Council to augment the current Hungarian Act of Public Procurement, high value and complicated processes should consider the involvement of decision support experts.

Helping the Transformation of Organizations to Run Public Procurement Activities

As mentioned earlier, the new, EU-conform Act expanded the scope of application regarding what organizations are subjects to the law. It now includes companies operating in the energy and utilities sector for example – let them be state owned or private.

Most of these organizations have not been regulated by the Act of Public Procurement before the country joining the EU. Since May 1st, however, they have to run all their main purchases under the new EU-conform Act.

We supported these organizations by

- providing consulting services working on the transformation of purchasing related activities of these usually large corporations;
- helping them to form public procurement division or offices;
- establishing reporting, responsibility and control regulations;
- creating corporate public procurement procedures according to the national Act.

Our main experience as consultants who have been supporting the transition process at a series of companies is twofold. First, working under the public procurement law effects not only the procurement function, but it influences other areas well. For example, it seriously affects the practice of annual financial planning as well as the way of planning and executing projects. Even more importantly, it has effects on general managerial decision-making processes as well in two ways:

- Under public procurement the manager does not have the right to select the winner;
- managers have to adhere to strict fixed scheduling requirements as well since the law determines a series of deadlines.

Being new to public procurement has an advantage, however, with respect to anticorruption solutions as these companies can leapfrog public organizations. With consulting support they can directly deploy a higher level of decision-making methodology and technology.

Indeed, this is what we have been doing for some of the organizations affected: as they have started anew, we have recommended the introduction of proper methodologies right form the start.

Appropriately designed corporate public procurement regulations can lower the chance of corruption by

- clarifying decision making roles and responsibilities;
- identifying issues in the process;
- developing harmonized policies;
- providing guidelines and best practices.

As a result, it would be hard to influence or deflect the process.

Providing Public Procurement Education with Special Focus on Decision-Making Techniques

Our Group has also organized education for representatives from institutions responsible for overseeing the design of procurement procedures and for practitioners responsible for the implementation of procurement regulations, i.e. officials responsible for granting public contracts or for the supervision of procurement processes. Decision methodologies were an integral part of these courses. One might say we preach what we do.

On the other hand, we have also developed a course dedicated to the training of decision analysts specializing in public procurement processes (procurement professionals were prepared to become trained decision analyst within their field).

Synergetic Effects of Supporting Factors

When investigating the possibilities what might be helpful in curbing public procurement corruption there is an important phenomenon to

consider that can 'enlarge' and strengthen the results: the synergy of various solutions. Some might work in themselves, other need to be applied together to raise their level of effectiveness.

It is not only beneficial to have synergetic effects but certain solutions are not even effective without such support. For example, defining legal instruments to enforce quality evaluation practices would not go too far without corresponding long term education to influence and modify views, approach and morals. Synergetic effects should be made part of the solution.

CONCLUDING REMARKS AND FINAL RECOMMENDATIONS

The wide-ranging practice and experience sketched in this paper resulted in several lessons to share. Overall, our findings suggest that raising the quality level of decision-making can go a long way in curbing corruption. To be more precise, it may not result in fewer attempts or lower amounts in bribes but can definitely lower the degree of the damage.

We do not claim that our particular methodology and the tool it uses is *the* 'panacea' to cure procurement corruption – neither we have intended to compare it to other available solutions –, rather, our long practice serves as an intended proof that the application of decision support techniques in general has a strong and beneficial effect. We believe it is worthwhile to strengthen the presence of these techniques in order to reach potential results mentioned above.

To arrive at a more frequent application of decision technological solutions it is not enough to spread their use, but three influencing factors should come together as well.

First, the procurement law should be demanding in this respect and should also ensure supportive surroundings. While fulfilling the goal to be supportive the law should avoid oversimplification: the aim to be more transparent and easier to be followed should not result in the simplification of applicable evaluation methods as that would lead to technically unacceptable results regarding the quality of the outcome of procurement projects;

Second, at the level of individual procuring organizations it is necessary to demand the creation of quality processes and the application of appropriate decision making technologies during procuring activities.

Finally, procurement education – including both general professional programs as well as courses tailored to individual organizations – needs to be of two kind: on the one hand there is a need for specific decision analysis courses directed towards *procurement professionals* (that prepares them to become trained decision analyst within their field), on the other hand, general procurement courses *should include decision analysis* as a topic (thereby recognizing the importance of decision making related knowledge).

NOTES

1. For the 'full story' of Paris, the apple and the three goddesses see online "The Trojan War - The Apple of Discord" (http://www.stanford.edu/~plomio/history.html) or "The Judgment of Paris" (http://www.theoi.com/Olympioi/JudgementParis.html) for example.
2. Various sources put the ruling of Hammurapi - or Hammurabi - somewhere between 2,200 and 1,700 B.C.
3. "Code 5. If a judge try a case, reach a decision, and present his judgment in writing; if later error shall appear in his decision, and it be through his own fault, then he shall pay twelve times the fine set by him in the case, and he shall be publicly removed from the judge's bench, and never again shall he sit there to render judgment." (See the website: http://www.wsu.edu/~dee/MESO/CODE.HTM).

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