

## A Review of China's Tangible Construction Market: A Mechanism to Curb Corruption in Public Procurement

Lotte Beck\*

### Abstract

*This paper is aimed at describing and analyzing the role of China's "Tangible Construction Market," or "the TCM", as an institutional mechanism to curb corruption in public procurement of construction projects. The TCM is a bid invitation management system for construction projects which regulates bidding activities. This unique approach exists only in China. The information for this research project was collected during a trip to China where the author conducted interviews with 20 experts in anti-corruption and public procurement. Important results of this research trip are presented and analyzed in this paper.*

**Keywords:** *Tangible construction market, public procurement, corruption, construction, China*

### 1. Introduction

Owing to its intricate nature, the construction market is most susceptible to corruption. It is nearly impossible to keep track

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\* University of Passau  
Innstraße 27, Zimmer 109  
94032 Passau, Germany.  
E-mail: lieselotte.beck@uni-passau.de  
Tel.: 0049 (0)851 509 25 53  
Fax: 0049 (0)851 509 25 52

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of the entire network of actors involved in public procurement of construction projects and it is a major challenge to control how public money is spent. Thus, corruption can occur easily and be hidden relative effectively (Stansbury, 2005, pp. 36-37).

If one wants to curb malpractice in the construction field, procurement institutions that work very well are essential. To meet this challenge, a unique solution called the "Tangible Construction Market," or the TCM, was introduced in the Chinese construction market.

The TCM is a mechanism that enforces existing legislation. It is a bid invitation management system, which offers one-stop purchasing services supported by electronic facilities to avoid personal contact between involved parties (Zou, 2004, p. 184). It regulates bidding activities and it is aimed at providing an efficient and transparent market environment. The purpose of this paper is to explain the structure and working process of the TCM and analyze whether it is a useful mechanism for curbing corruption in public construction projects.

The organization of this paper is as follows: section 2 provides information on the empirical approach of the research project. Section 3 highlights the organizational structure of the TCM and explains its working process. In section 4, it is analysed whether the TCM is capable of curbing corruption in public procurement. Section 5 concludes the paper.

### 2. The Empirical Approach

In order to explain the empirical approach of the research project, chapter 2.1 provides information on the scope of investigation. Chapter 2.2 continues with revealing the survey design.

#### 2.1 The Scope of Investigation

All activities concerning public purchase can be summarized in a standard procurement

process as defined by Transparency International (Wiehen & Olaya, 2006, p. 17). This process consists of five stages which are visualized in Figure 1.

**Figure 1: A Standard Procurement Process**



In China public procurement involves many different public institutions and agencies besides the TCM. They have various functions, which can be categorized along this standard process. The operational area of the TCM specifically covers the bidding activities, which occur in the second and third stages of the standard process. It includes all activities ranging from the publishing of the procurement notice to the award of a contract. This paper concentrates particularly on these stages by explaining the structure, functions and services of the TCM.

The study focuses exclusively on construction projects that are subject to public bidding. According to China's law on bid invitation and bidding, this includes all construction projects that are financed "completely or partly with State owned funds or financed by the State," as well as "projects using loans or aid funds from international organizations or governments of other countries" (Bidding Law, article 3(2)-(3)).

Public purchase activities of construction projects are in particular vulnerable to corruption, as they are complex and highly specific ventures which involve huge investment sums. In this context, corruption is understood as "the misuse of public power for private benefit" (Lambsdorff, 2007, p. 1).

In order to be corrupt one has to be creative to ensure the successful manipulation of a contract award. New forms of corruption are

always being developed and often involve complicated networks of secret relations. This is especially true for environments lacking transparency, such as the construction market. It is impossible to describe each single shape that corruption can take. However, some important areas of risk, which offer room for manipulation during the conduct of public procurement, are mentioned in Table 1.

**Table 1. Areas of risk in the five stages of the standard procurement process**

Five stages of a standard procurement process	Important areas susceptible to corruption
1. Needs assessment phase and demand determination	<ul style="list-style-type: none"> <li>• Determined extent of demand</li> <li>• Definition of specifications</li> <li>• Observance of conflicts of interests</li> <li>• Capacity of bureaucratic system</li> <li>• Decision - making</li> </ul>
2. Preparation phase: process design and preparation for bidding	<ul style="list-style-type: none"> <li>• Design of the advertisement</li> <li>• Design of the procurement documents</li> <li>• Design of bidding documents</li> <li>• Appraisal of goods and services</li> <li>• Design of the bidding</li> <li>• Drafting of contracts</li> <li>• Maintenance of competition</li> </ul>
3. Contractor selection and award phase	<ul style="list-style-type: none"> <li>• Process of decision - making</li> <li>• Creation of selection criteria</li> <li>• (Mis)use of confidential information</li> <li>• Maintenance of competition</li> </ul>
4. Contract implementation phase	<ul style="list-style-type: none"> <li>• Delivered quality</li> <li>• Contract renegotiations</li> <li>• Variations from the contract</li> <li>• Price and cost fluctuations</li> <li>• Delays in delivery</li> <li>• Biased supervision</li> </ul>
5. Final accounting and auditing	<ul style="list-style-type: none"> <li>• Biased accountant and auditors</li> </ul>

*Source:* TI Handbook for Curbing Corruption in Public Procurement (2006), pp. 18-20.

These risk factors should be kept in mind if corruption is to be curbed. They give some idea of the many forms that illicit manipulation can take during public procurement. Besides, they demonstrate that it is worth looking into the unique approach of the TCM to analyze if it is capable of curbing corruption in public bidding.

## 2.2 Survey Design

Owing to the fact that only a few written documents exist about the TCM, other than those in the Chinese language, the collection of information was done through interviews. Therefore, 20 experts in the field of anti-corruption and public procurement were interviewed during a research trip to China. Two different groups of experts were considered. First, the focus was put on experts who have extensive knowledge covering anti-corruption work and public procurement in China, all of them being professors from the Tsinghua University in Beijing. The information gathered during these conversations constituted the contextual basis for further interviews.

The second type of experts selected included people that were directly involved in some field of activity of the TCMs located in Beijing or Dalian. These specialists formed the main part of the group of interviewees. The group existed of officers from each department of the TCM. It also included one civil engineer who presented the point of view of the bidders. Each one of the second type of experts held a key position within the TCM and fulfilled a specific function during the TCM bidding process. By sharing their experience and the knowledge they had gained during direct participation in the procedures, these insiders were able to provide the information needed for this paper (Meuser & Nagel, 1991, pp. 443-445).

**Table 2. Sample of interviewees**

Ref. No.	Name	Institution	Position/Department	Experience
1	Prof. Ren Jianming	Tsinghua University, Anti-Corruption & Governance Research Center	Professor	Specialist on anti-corruption
2	Prof. Cheng Wenhao	Tsinghua University, Anti-Corruption & Governance Research Center	Associate Professor	Specialist on anti-corruption
3	Mr Wang Jianjun	Private entrepreneur	Civil engineer	Supplier on the construction market, civil engineer
4	Mr Wong Rui	Supervision Bureau under the Dalian City Council	Deputy Director General Dalian	Supervision of public administrative proceedings
5	Dr. Deng Xiaomei	Tsinghua University, Department of Construction Management	Associate Professor	Specialist on Chinese construction market and corruption
6	Prof. Zhang Zhihui	Tsinghua University, Department of Construction Management	Director of the Research Institute of Construction, Engineering and Management	Member of the Expert Tank
7	Anonymous	TCM Beijing	Information Office	TCM official
8	Anonymous	Chinese Government Official		Specialist on the Chinese construction market
9	Mr Wong Xiaohui	TCM Dalian	Director of Bidding Management Office	Management of the TCM in Dalian, Member of the Dalian Expert Tank
10	Anonymous	TCM Beijing	Practice Regulation Office	TCM official
11	Anonymous	TCM Beijing	Tendering Service Office	TCM Official
12	Anonymous	TCM Beijing	Tendering and Contract Management Office	TCM official
13	Anonymous	TCM Beijing	Bidding Service Office	TCM official
14	Anonymous	TCM Beijing	Development and Research Office	TCM official
15	Anonymous	TCM Beijing	Information Office	TCM official
16	Anonymous	TCM Beijing	Information Office	TCM official
17	Anonymous	TCM Beijing	Finance Office	TCM official
18	Mrs Lv Hui Yu	TCM Beijing	General Affairs	TCM official
19	Anonymous	TCM Beijing	Bidding Supervision Office	TCM official
20	Mr Wong Yutong	Dalian Municipal Supervision Bureau	Permanent delegate at the TCM from the Dalian Supervision Department under the Ministry of Supervision	Public official

Note that in this paper interviews are cited by mentioning the name of the interviews partner followed by a number. The number refers to table 2 which lists all interview partners. In case a person expressed the wish not to be mentioned with his or her name he or she is cited as “anonymous.”

In spite of the considerable effort made to find more participants from the supplying sector, that search was unsuccessful. One reason may have been the sensitivity attached to the topic of corruption in China. Consequently, the present study emphasizes the point of view of the public sector. Nonetheless, the perspective of each and every market participant is relevant in order to furnish a complete inside view on the problem of corruption in the Chinese construction market. Reading the present study, this research limitation has to be kept in mind.

The information collected was analyzed on the basis of a qualitative approach, using Mayring’s content analysis (2002, pp. 114-117). To this end, two objectives were pursued. First, the institutional structure and functions of the TCM as a facility for regulating public procurement in the Chinese construction market were established. Second, on the basis of this information, the TCM was analyzed in terms of its capability to curb corruption in the construction market. The results of these investigations are presented in the following section 3. and 4.

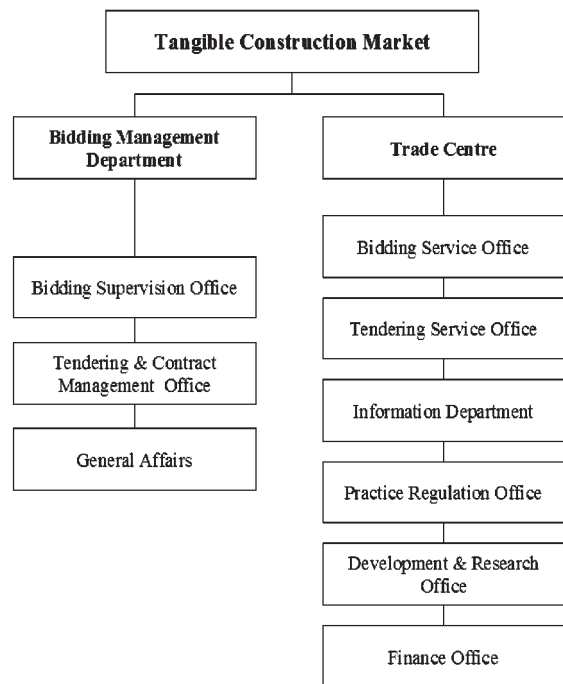
### 3. The Tangible Construction Market

The TCM is a building in which all bidding activities related to public construction projects take place. It offers one-stop services, meaning that all public offices and agencies involved in the bidding process have an office within the TCM building and they provide all services on-site at a fixed location (Zou, 2004, p. 184). TCM buildings exist all over China and they are operated on the municipal, provincial and national levels. Until 2006, among the 336 existing Chinese cities 325 had already established a TCM (Guo, 2006, p.14). All public projects with

a single contract worth over 2 million Yuan, or a total investment of 30 million Yuan, must be announced in the specific TCM subordinated to the council in whose jurisdiction the project is planned to be constructed (anonymous [7]).

The organizational structure of the TCM consists of two main departments, namely the Trade Centre and the Bidding Management Office. Figure 2 depicts an organisational chart of the TCM and lists all its offices.

**Figure 2. The Tangible Construction Market**



Whereas the Trade Centre provides market participants with services during the bidding procedure, the Bidding Management Department supervises the entire bidding process and approves the qualifications of all parties involved in the market activities.

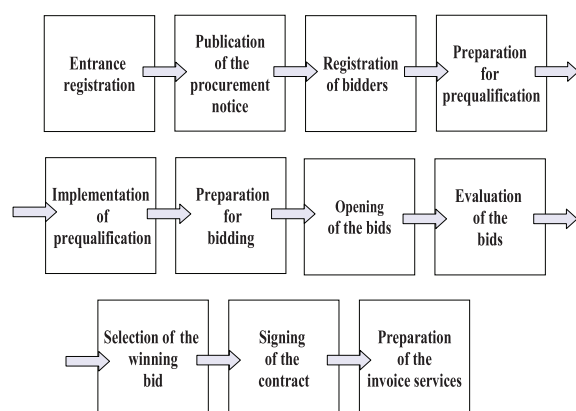
Besides the services of the Trade Centre and the supervising role of the Bidding Management Department, the TCM provides a lot of venues for several operations. This includes meeting rooms for opening bids, a closed-to-the-public evaluation area,

a sealed room to keep bidding documents, a closed-to-the-public archive and various information facilities where all market participants can receive an inside view of the current market situation (anonymous [10], anonymous [14]).

### 3.1 The TCM Bidding Process

In order to provide a clear overview of the involvement of all the above-mentioned offices and the roles they play, this chapter outlines the TCM working process. The working process can be divided into 11 stages, which are illustrated in figure 3. At each stage, several actions have to be completed successively. Along the way, procurement participants have to approach various TCM offices to conduct the bidding activities in accordance with regulations and standards. We continue with a description of the 11 stages by stating the main operations corresponding to each stage.

**Figure 3. The TCM Bidding Process**



#### 3.1.1 Entrance Registration

First of all, the inviter of a public bid has to register at the TCM building. During the entrance registration that person has to prove that he or she possesses the licenses and approvals required for completing a certain public project. The Bidding Service Office conducts the registration, whereas the Bidding Supervision Office is responsible for ensuring that all activities are completed correctly (anonymous [13]).

#### 3.1.2 Publication of the Procurement Notice

Once the bid inviter completes the registration, he or she can hand in the procurement notice to the Bidding Supervision Office where staff revises the documents to ensure that the procurement notice has been prepared in accordance with the general standards. If the procurement notice has been prepared correctly, the Bidding Supervision Office, with the help of the Information Office, publishes the relevant advertisement on the TCM website, on computer terminals located in the TCM building and at the TCM information hall (anonymous [10], anonymous [13]).

Thereafter, the bid inviter prepares a declaration of prequalification requirements, which is filed at the Bidding Supervision Office. This document will be needed again when the Bidding Supervision Office has to examine whether companies have been selected carefully during the pre-qualification process (anonymous [12]).

#### 3.1.3 Registration of the Bidders

If a construction supplier wants to take part in bidding for publicly procured projects, he or she has to register at the TCM, too. During registration, basic information about the company is required. Construction companies are divided into four groups, A\*, A, B, and C, according to their technical capabilities, their past performance, their financial capability, and their company assets. Those companies rated as A\* may take part in all bids, whereas construction suppliers in group C are limited to offering services only to small projects (anonymous [15]).

#### 3.1.4 Preparation for Prequalification

Once suppliers have been classified into a certain group, they can search on the TCM website or via the computer terminals for projects in which they are interested. If they find an appealing project announcement they can request that they be included in the bidding process. To do so, they must complete a standard application form by using the computer terminals



or the TCM website. Their electronic application will be accepted only if the project is suited to the group in which they are registered.

### **3.1.5 Implementation of Prequalification**

After having been accepted, the construction company needs to pass prequalification selection procedures before it would be eligible to take part in the bidding. This process requires the constructor to prepare a bid-proposal in line with the specific request defined in the procurement notice (anonymous [7]).

During the expert interviews conducted to collect the information for present study, different information had been provided on how and where the prequalification is organized. Thus, it is not possible to give detailed information on the conduct of prequalification. But all the interviewees agreed that the bid-inviter must submit reports on the selection criteria, together with all the written materials that had been obtained during the prequalification process, to the Tender Supervision Office. The Bidding Supervision Office double-checks whether the selection was carried out in accordance with the prequalification requirements that had been filed at that office in advance. Only if that is the case are the prequalified companies informed in writing about their admission to the bidding process (anonymous [12]).

### **3.1.6 Preparation for Bidding**

To continue, the bid inviter has to device the tender documents and submits them to the Tendering and Contract Management Office. The tender documents comprise a booklet made available to all suppliers, summarizing the information that they need to prepare their bids. The documents have to include instructions for bidders to inform them about all the project requirements, the conditions of the contract, and all the project specifications. Furthermore, the tender documents include instructions to the evaluators describing the evaluation criteria, and they include a timetable with information about the time and venue of the most important activities

of the bidding process (Zhang Zhihui [6]). If the bid inviter changes the requirements described in the tender documents, he is obliged to report the adjustments to the Tendering and Contract Management Office, as well as to the bidding parties not later than 15 working days before the deadline for bid submission (anonymous [8], anonymous [12], and anonymous [19]).

Subsequently, it is the duty of the bid inviter to inform the Tender Service Office about the planned date for the opening of the bids. The Tender Service Office books a bid-opening room and a room in the evaluation area, which is closed to the public. Besides, the bid inviter has to apply for arranging the selection of a group of experts from the “municipal expert tank” one working day before the actual evaluation takes place. This so-called tank of experts is a list of all regional specialists in the field of construction provided by the human resources department of the city council. The experts are divided into several groups according to their specific field, and are registered in an electronic database known as the expert tank (anonymous [8]). These experts are the only ones who are able to evaluate the bids for public construction projects. The selection of experts from the expert tank is done one day before the evaluation or on the day of the evaluation. Nobody knows the name or any other personal information about the chosen experts. They are selected randomly with the help of computer software. An automatic sound system calls a randomized expert and asks him if he has time to come to the TCM on a certain date. If the expert has the time and wants to join the evaluation team, he is asked to type key number 1 on his telephone; if he is not free, he would touch key number 2 (Wong Xiaohui [9]). The experts are provided with only basic information, such as the place and the date of an evaluation. Detailed information is not given to the experts until they have entered the non-public evaluation area (Zhang Zhihui [6], anonymous [16]).

Before bids can be opened and evaluated, all bidders have to deposit a “tender entry security” to ensure that they have good intentions. The amount would be returned to

them if the process could be finalized in accordance with all the relevant laws and regulations.

### **3.1.7 Opening of the Bids**

The bid opening takes place on the date indicated in the tender documents, under the supervision of the Tendering and Contract Management Office. On the day of the bid opening, or one working day before the bid opening, bidders lodge one copy of their bidding documents with the Tender Service Office and a second copy at an external place, as specified in the tender documents. A third copy is to be brought along to the bid-opening room. All three copies of the bidding documents have to be enclosed in an envelope and sealed with the official company stamp.

In order to conduct the bid-opening, authorized representatives of the bidders and the bid inviter, as well as the TCM supervision staff, meet at the bid-opening room. The bid opening follows standard procedures (anonymous [7], anonymous [8]). At the end of the bid opening, the chairman closes the meeting and asks the bidders to bring their bids to the entrance of the closed-to-the-public evaluation area. The evaluation generally starts 20 minutes after the bid opening has finished (anonymous [12]).

### **3.1.8 Evaluation of the Bids**

Experts can access the evaluation area only after having their fingerprints taken at a computer terminal featuring a recognition system, which is placed next to the entrance of the evaluation area (Deng Xiaomei [5]). Once the fingerprint has been verified, the computer indicates the room where the evaluation is to take place. Experts have to enter the area before 9 o'clock in the morning. If an expert is more than half an hour late, he or she is refused permission to enter the area and is excluded from the evaluation of the bids. If this happens, the expert tank can be browsed in order to locate experts living close to the TCM. Again the system selects an expert randomly using the automatic call mechanism and requires him or her to

come to the TCM within 30 minutes of the call (anonymous [11]).

Not until the experts enter the evaluation area will they receive information on the project to be evaluated. In the evaluation room they will meet the other members of the evaluation committee for the first time. The bid assessment is done in an anonymous way and no name or identification is attached to the bidding documents. Before the evaluation can begin, video-surveillance of the room is switched on and the video is broadcasted to a supervision room located inside the evaluation area. This is a room equipped with a large-screen television where supervisors can sit and watch the experts evaluating the bids.

Experts conduct a review of the bids according to the tendering documents. The assessment is done on a multicriteria basis, which can be divided into technical and economic aspects (Zhang Zhihui [6]). Each of the experts appraises each bid and gives scores in accordance with the evaluation criteria. The average of all scores constitutes the final score based on how the bidders are ranked (Zou, 2004 p. 188).

In addition to these functions, the experts are to check the bidding documents for collusion or any hint of collusion. If they find anything suspicious, they stop the evaluation process and transfer the documents to the Bidding Management Office where a special investigation is set up. If collusion is proven, the expert who signalled the Bidding Management Office of this matter will receive 20 per cent of the insurance that had been deposited by the bidders earlier in the process (Wong Xiaohui [9]).

Before the experts come to a final decision, they often need additional information clarifying certain aspects of the bids. For this purpose, they can call at the clarification room located in the TCM outside the evaluation area. These clarification rooms look like telephone booths. In each of them one supplier has to wait for requests on his or her documents. The

telephone is connected to loudspeakers so that all the experts of an evaluation committee can follow the discussion with a certain bidder.

At the end of the evaluation the experts identify the three companies which scored the highest. Experts are not allowed to leave the evaluation area before they come to a final decision. In case they need more than one day to assess the bids, the area provides overnight facilities. Experts prepare a list naming the best bidders and submit it to the Tendering and Contract Management Office, which will publish the outcome of the evaluation in the TCM information hall for at least five days (Zhang Zhuhi [6]). During this time, the public has the opportunity to hand in appeals to the Practice Regulation Office if unsatisfied with the outcome of the assessment (anonymous [16]).

### **3.1.9 Selection of the Winning Bid**

Contracts can be awarded only after any default problem has been dealt with or if no serious complaints have been submitted. The bid inviter makes the selection of the winning bid within 15 days of the evaluation's conclusion. The public bid inviter must choose the best of the three bidders recommended by the experts. If he or she does not accept that selection, the next best supplier is chosen (anonymous [8]).

### **3.1.10 Signing of the Contract**

The contract has to be signed within 30 days after it has been awarded. In the end, the winning bidder has to prepare a written report about the bidding process and submit it to the Tendering and Contract Management Office. In addition, the contract between the bid inviter and the supplier must be filed together with the letter of award, the tendering documents, duplicates of the contract and letter indicating power of attorney.

The Tendering and Contract Management Office checks to ensure that the information contained in the bidding documents is also used in the contract. Furthermore, it proves if the name of the supplier mentioned in the

contract is the same as the one of the selected winning bidder. After having received and checked all these documents, the Tendering and Contract Management Office sends a letter with its comments to the contracting parties. The TCM staff advises the parties of their duty to keep the Tendering and Contract Management Office informed about any amendments influencing the realization of the contract (anonymous [8]).

### **3.1.11 Preparation of the Invoice Services**

To cover its overheads the Trade Center charges the winning bidder 0.11 per cent of the final contract. All the services and the various facilities provided at the Trade Centre can be completely financed by utilizing this source of income (anonymous [17]).

## **3.2 Handling Complaints**

By law, all participants involved in public procurement must have the opportunity to report complaints at any time (Bidding Law, Article 65). It is the task and function of the Practice Regulation Office to deal with dissatisfied market participants. For this purpose, a telephone and mailbox were set up for reporting dissatisfaction. Complaints may address any part of the bidding process (anonymous [10]).

At this stage, the description of the functions and services of the TCM are completed. The explanations given in section 3 will be examined in the following section 4 in order to analyze the capability of the TCM to curb corruption in public procurement.

## **4. The Capability of the TCM to Curb Corruption**

The TCM meets the fundamental requirements necessary to prevent corruption. It successfully fulfils its role as a law enforcement mechanism in many areas (Zou, 2004, p. 190).

An important advantage of the TCM is that all bidding activities have to take



place inside one building where all necessary services are provided. This arrangement is of considerable help in affording an overview of all the market activities involved. It simplifies the implementation of reasonable regulations and standards. The sophisticated composition of the TCM provides a high level of transparency where needed to create a level playing field (e.g. information hall). At the same time it ensures anonymity when it is helpful to support fair procedures (e.g. evaluation area). Besides, the problem of “speed money” becomes less important as the market participants can easily walk from one office inside the TCM to another office. The pressure of time, which is the basic cause of people paying speed money, loses its impact.

Concerning the organizational structure of the TCM, its division into Trade Centre and Bidding Management Office explicitly separates administrative tasks from supervision and control. Thus, the TCM is based on a mechanism of checks and balances. In cases of malfeasance, the probability of detection increases as various offices monitor whether the relevant rules and regulations have been fulfilled. The danger of being detected by a well-implemented supervision mechanism has a preventive influence on corruption. The development of the Trade Centre, as a unit capable of covering its own income and expenses, has provided those involved in building contracts with an administrative body equipped to work free of political influence. Its status in this regard supports the maintenance of good governance in public procurement (Ren Jianming [2]).

Within its scope, the TCM creates a level playing field for market participants, offering proceedings that are transparent owing to the high level of predefined standards and information available. All the activities follow a bidding process that is designed in an efficient and economical way. The division of power and duties throughout the bidding process stands out positively. It hinders public officials from maintaining too much discretionary power that could be abused for private interests (Weber

Abrano, 2003, p. 22). As the entire process is managed and controlled by computer software, the TCM provides a further suitable and effective control mechanism (anonymous [8]).

At this stage, it is suggested that the bid submission be integrated into the software-based process, too. The establishment of an electronic submission procedure with a secure logbook would enable the prevention of bid rigging after the bids have been submitted (Lengweiler & Wolfstetter, 2006, p. 7).

In particular, the innovation of the expert tank and the closed-to-the-public evaluation area proved to be very useful to prevent the assessment from being manipulated. Through different arrangements, the evaluation area is closed to the public and access to the area is allowed exclusively to the randomly selected experts (anonymous [16]). Hence, these arrangements ensure that the experts' opinion on a bid cannot be influenced through a third party and that the specialists assess each bid thoroughly on the basis of their expert knowledge. The evaluation is conducted in total isolation and anonymity (Zhang Zhihui [6], Deng Xiaomei [5]). This endows the evaluation committee with sufficient discretionary power, without fear arising that the experts might misuse their function. It is beneficial that clear evaluation criteria are defined a priori in the tender documents which the experts have to follow strictly (OECD, 2006, pp. 18-19; Trepte, 2004, p. 76). The installation of the clarification rooms enables experts to address questions to the suppliers during the assessment process. Bidders are obliged to sit inside the previously mentioned “telephone-booths” in cases when experts need clarification on bids. Transparency is ensured as the cells are video-supervised and experts can make conference calls only via telephone loudspeakers so that the entire evaluation committee can listen to all telephone calls. Personal conversations between experts and bidders are not possible; thus, manipulation through these conversations can be excluded. The conversations not only help the evaluation committee to judge the bidding documents in a more detailed way but also assist in uncovering

malpractice through the asking of strategic questions. If a supplier answers in a suspicious way, the TCM evaluation committee becomes more careful in assessing the documents for hints of malfeasance (Wong Xiaohui [9]).

Furthermore, the implementation of the complaint mechanism is very useful as any party can report malpractice at any time. Complaints often serve as the first hint of malfeasance and, thus, they are a useful self-policing mechanism.

In view of the above-mentioned aspects, it can be seen that the TCM is a useful institution for curbing corruption during public procurement in the construction market. Illegal trading advantages are very difficult to create within the TCM bidding process. However, considering the fact that corruption in the Chinese construction market is still a serious problem, it becomes obvious that this mechanism needs improvement. Therefore, in the following discussion, various areas are highlighted where the potential for enhancement was identified.

First of all, the practical success of the TCM, as far as its ability to curb corruption is concerned, highly depends on how the system is implemented in different regions of the country. Despite the fact that national legislation covers public procurement, many regulations that have an impact on the functions and services of the TCM are determined at the provincial and local levels. Thus, while the principal concept of the TCM is the same throughout China, practical enforcement can vary in different regions. Only if the TCM works on the basis of uniform regulations throughout the entire country can it be ensured that the TCM is able to successfully curb corruption in the Chinese construction market (OECD, 2006, p. 13). In order to ensure the thorough provision and correct functioning of TCMs country-wide, it would be helpful to establish a central agency which is in charge of procurement regulation in the Chinese construction market.

Furthermore, in section 2, it was shown that there are many high-risk areas throughout the procurement process, whereas the TCM bidding process covers only a limited area of all the aspects involved. Consequently, the TCM alone cannot ensure the successful prevention of corruption because it does not cover the entire procurement process. Therefore, it is recommended that the scope of the TCM be expanded so that it includes all five stages of the process.

In addition, some improvements are suggested concerning areas which are already within the field of functions of the TCM. In this context, it is important to determine a clear and standardized method of prequalification to support fair and transparent proceedings. It is suggested that a committee be established comprising members from the expert tank which conducts the pre-selection of constructors in the evaluation area of the TCM. This would help to prevent the misuse of information exchanges during the prequalification process and to realize the same positive achievements that have been attained during the evaluation stage.

An important challenge facing the TCM will be overcoming the lack of capacity in various areas (Guo & Lian, 2005, p. 131). This especially refers to the closed-to-the-public evaluation area. In large TCMs, all the evaluation rooms are occupied during some busy periods and the assessment cannot start directly after the bid-opening procedure. Once the bids have been opened, they become especially vulnerable to corruption, as all bidders then know each other's offers. Some of them might consider offering a bribe as their only chance to win the contract. Only if sufficient evaluation rooms are provided could the risk of manipulation between the time of the bid opening and the evaluation stage be minimized.

In conclusion, it is recommended that not only should the suppliers and the bid inviters be required to register with the TCM but also consultants and financial institutions should do the same. In the establishment of corrupt networks

both parties play an important role, but they are not yet integrated and monitored in the TCM bidding process. During registration, it should be required that all players prove their past adherence to honest business practices. Implementing a mechanism that would control all actors' business integrity in the past could make their future involvement in public construction projects dependent on having a good record. This could constitute an incentive for companies to establish a good reputation (Klitgaard, 2000, 132). Companies could be requested to implement a code of conduct for their businesses as a necessary condition for them to take part in public procurement. In this way, it would be emphasized that the establishment of good governance practices is an indispensable standard for taking part in public procurement.

## 5. Conclusion

This paper describes the organizational structure and the working process of the TCM. It shows that the establishment of the TCM constitutes a step forward in curbing corruption in the Chinese construction market. It has been demonstrated that the TCM is able to provide the strong institutional support necessary to foster integrity during bidding activities; however, the TCM fails to cover all stages and activities of the public procurement process. For this reason, in its current stage of development, the TCM on its own is still not sufficient to eliminate the problem of corruption. Important strengths and weaknesses of the TCM approach have been outlined and suggestions have been made for improving the system.

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