

Ethics-Related Issues in the Tender Evaluation of Malaysia Public Projects

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Ethical practice is usually addressed in the forms of code of conduct, rules and regulations, agreement, and contract. There is a lack of empirical studies on ethical issues involving contractors during tender application submission. Therefore, to begin with, a preliminary research was conducted in an attempt to explore the presence of ethical issues at tendering stage, particularly at the beginning of the tender evaluation stage. The research methodology was qualitative as telephone interviews were used for its data collection method. The participants were selected from a purposive sampling consisting of local authorities and other agencies. Seventy-five percent of the participants claimed of having come across unethical cases. Surprisingly, the findings showed that falsifications of documents by the tenderers were identified during the tender application submission stage. It was also found that the lower grade contractors are prone to practise unethically compared to the higher-grade counterparts. The industry should seriously address these findings as it could possibly reduce the competitiveness of tenders and affect the overall project performance. This research is crucial in order to suggest the way forward for tendering practice, instil the ethical practice of the contractors, assist tender evaluators, and most importantly, elevate the study in refining the tender submission process.

Keywords: *Ethics, Contractor, Construction, Tender, Quotation*

1. INTRODUCTION

Construction industry is not only seen as physically challenging, dirty, and dangerous (Ling, Leow, & Lee, 2016), but also discouraging people from the industry. Nevertheless, it is needed for the nation development as it contributes to the economy of the country. The codes of ethics are being introduced to guard and guide the practice of the practitioners and professionals. The view of other countries however regards professional ethics as a sensitive subject. Even though the codes of ethics are established to ensure quality and avoid conflicts of interests, unethical behaviours can still be detected from the decisions made at the top management level just for the sake to close the deal and out of greed (Lindebaum, Geddes, & Gabriel, 2017; Nordin, Takim, & Nawawi, 2013; Raja, 2014; Scalza, 2008). In view of overcoming this issue, suspension of practising licence is foreseen as a punishment. For instance, in Malaysia, contractors face the possibility of their licence being suspended by the relevant

authority body for unethical behaviours (Yahya, 2016).

The issues of integrity and ethics have been long debated. The seriousness of the issues captured the attention of the nation, hence the incorporation of them in the Construction Industry Master Plan (CIMP) 2010-2015. Not only in a thrust, but in two thrusts, i.e., 'strengthen the construction industry image' and 'strive for the highest standard of quality'. Continuing the CIMP is the Construction Industry Transformation Programme (CITP) 2016-2020, which is currently in use, 'addressing quality and professionalism' in one of its four thrusts.

This paper explored the issues of integrity and ethics among Malaysian contractors during tender application submission. Specifically, this paper presented whether unethical issues appeared during tendering, established the classification of the contractor registration grades who are usually involved in unethical issues, and identified the actions taken by the

local authorities and agencies in the event of an unethical occurrence.

2. LITERATURE REVIEW

One reason for arising issues on ethics is different perception and goals. A study by Park and Lee (2014) supported that perceived similarity influences trust. Jaafar and Nuruddin (2012) proposed for a more rigorous research done on the procurement systems in Malaysia which impact poor project performance. First, this research looked into the process in the procurement system and compared it with the practice of other countries. Then, this research

narrowed down and focused at the starting point of the procurement process where the contractors involved become the project team member by submitting their tender application for evaluation. The appearance of ethical issues is probed at the stage of tender evaluation.

2.1 Phases of Construction

Every project is unique, but the process of any construction project will undergo the phases as illustrated in the Guide to the Project Management Body of Knowledge (Project Management Institute, 2013) in figure 15.

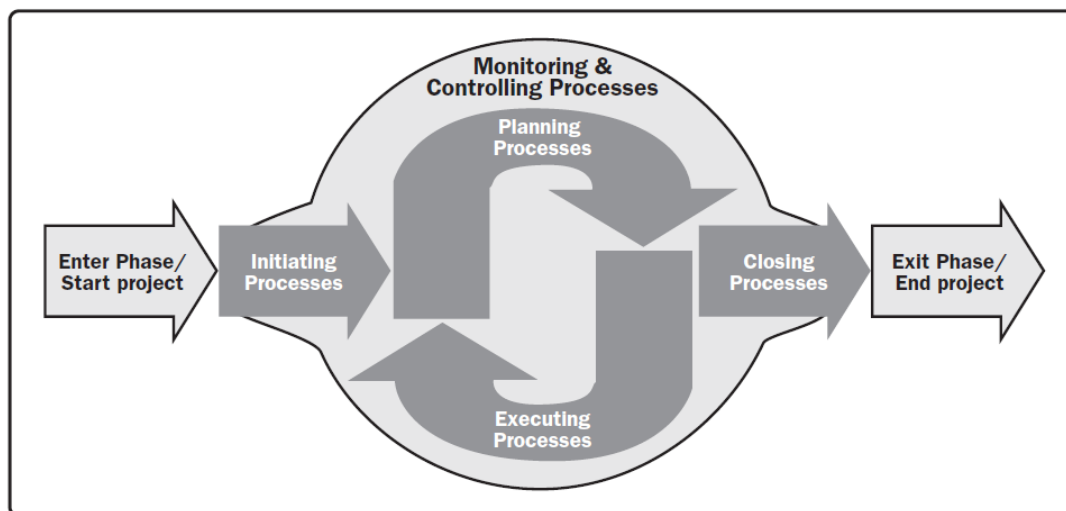


Figure 1: The Project Management Process Groups
Source: Project Management Institute (2013)

The tendering process is one of the initiating processes. In relation to the public projects in Malaysia, the procedure is managed by the Ministry of Finance (MOF). Generally, the Malaysian tendering practice is similar to the international tendering practice,

involving all the processes in the project management process group as in Figure 15.

The comparison of Malaysian and other international tendering practices is shown in Table 1.

Table 1: The Practice of Tendering Process in Malaysia and Other Countries

Tendering process	Malaysia Source: <i>Kaedah Perolehan Kerajaan</i> (Government Procurement Methods), Ministry of Finance Malaysia (MOF, 2015)	United Kingdom and Ireland Source: Enterprise Ireland (2004) and CMS Law-Now (2015)	Australia Source: Evans & Peck Pty Limited & Australian Constructors Association (2006) and Department of Finance and Deregulation (2013)	New Zealand Source: Controller and Auditor-General (2008)
Tender preparation	Determine project type and scope of work	Budget Document preparation	Project definition and scoping Selection process	Preparing the tender or proposal package

	Determine the type of tender Tender document preparation		for tenderers Tender documentation Criteria for selection	
Call for tender	<ul style="list-style-type: none"> • Tender advertisement • Tender closing 	<ul style="list-style-type: none"> • Advertisement • Candidate selection • Bid preparation 	<ul style="list-style-type: none"> • Call for tenders • Responding to invitations to tender & developing the commercial offer • Tender meetings & enquiries • Amendments to tender documents • Submission & closing of tenders 	<ul style="list-style-type: none"> • Advertising • Distribution of the tender or proposal package • Participant briefings • Managing requests for additional information • Receipt of tenders or proposals
Tender evaluation	<ul style="list-style-type: none"> • Technical & financial evaluation • Prepare tender briefing document • Present tender briefing document to Agency Procurement Board • Release letter of intent • Conduct negotiation and reach agreement 	<ul style="list-style-type: none"> • Evaluate bids 	<ul style="list-style-type: none"> • Tender analysis • Tender clarifications 	<ul style="list-style-type: none"> • Evaluation • Participant presentations • Clarification during the evaluation process
Tender conclusion	<ul style="list-style-type: none"> • Release letter of acceptance • Contract signing 	<ul style="list-style-type: none"> • Award contract 	<ul style="list-style-type: none"> • Final contract negotiations • Tender selection & award 	<ul style="list-style-type: none"> • Awarding the contract
Tender management	<ul style="list-style-type: none"> • Contract administration • Payment 	<ul style="list-style-type: none"> • Contract management 	<ul style="list-style-type: none"> • Ensure ongoing performance achieve value for money • Manage contract extension options, termination, or transition to new contractor 	<ul style="list-style-type: none"> • Contract management

2.2 The Codes of Ethics for Tendering

In Australia, a guide on contractors' ethics is spelled out and can be found in the Best Practice Guide for Tendering and Contract Management (Victorian Civil Construction Industry, 2008). The limitation in this guide is it does not contain any specific approach to prevent any unethical conduct and, therefore, it promotes the innovation of a delivery system to be introduced. In the United Kingdom, there is a Good Practice Contract Management Framework (National Audit Office, 2016), but the limitation is it only serves after the tender is concluded and not during tender evaluation. Bauld (2016) also found that the contractors'

ethical issue for bid shopping arises in Canada. Similarly, the Malaysian construction industry outlined the Code of Ethics for Contractors (Construction Industry Development Board [CIDB], 2008) but the approach is not translated into a practical application in carrying out the tendering process.

2.3 Falsification of Documents

'Falsify' is defined by the Cambridge Dictionary as to change something, such as a document, in order to deceive people ("falsify," 2017a). The Longman Dictionary of Contemporary English Online defines 'falsify' as to change figures, records, etc. so that they

contain false information (“falsify,” 2017b). The Oxford Dictionary defines ‘falsify’ as alter (information, a document, or evidence) so as to mislead (“falsify,” n.d.). The term ‘falsification’ is defined by the Oxford Dictionary as the action of falsifying information or a theory (“falsification,” 2017). This article accepted all the definitions with an additional concept on the specific purpose of the contractors so as to increase their evaluation score or weightage, and consequently win a project award.

One of the unethical issues identified during the tender evaluation process is forgery of experience and qualification claims (Adnan, Hashim, Yusuwan, & Ahmad 2012; Wan Ahmad & Abd Ghadas, 2012). Even though the document forensics technology has developed rapidly to detect document falsification (Shang, Memon, & Kong, 2014), the technology application is still poorly adopted in construction projects (Wang, Chong, Shou, Wang, & Guo, 2014; Yih Chong, Balamuralithara, & Choy Chong, 2011). The process and method to handle the issue are also varied from one agency to another. Therefore, whenever there is any doubtful or suspicious document encountered during the evaluation, then only an investigation is carried out. It causes extra work on the part of the evaluators and incurs time to get the feedback or authentication from the authorised person from the related agency. After that, if it is brought to the court, it incurs even more time, because the people involved

usually have little tolerance to hold onto the matter until the end (Pamfil, 2013).

In the rapid growth of project development, the construction industry does not overlook the issues of integrity and ethics. Being incorporated in both CIMP and CITP, these issues have never failed to be addressed, and therefore regarded as a strong underlying factor in determining the success and quality of a project.

2.4 The Integrated Registration of Contractors

During the implementation of CIMP (2010-2015), the challenge observed was the initiative for the registration of contractors from two agencies, the Construction Industry Development Board (CIDB) and Pusat Khidmat Kontraktor (PKK) being integrated into only one agency, i.e., CIDB. Later in the plan, from 1st May 2014, PKK is known as Bahagian Pembangunan Kontraktor dan Usahawan (BPKU). The integration has been achieved in CIMP and it becomes the motivation for an integration of another operation process to be successful in support of CITP.

Currently, the number of contractors according to the registration grades in Selangor and Kuala Lumpur is as tabulated in Table 25. The contractor companies, like any other organisations, from G1 to G7, have the management and the operational teams for their day-to-day business.

Table 2: The population of the registered contractors by grade in Selangor and Kuala Lumpur

	Registration Grade	Population	Total
Lower grades	G1	5,667	15,606
	G2	3,503	
	G3	4,731	
	G4	1,705	
Higher grades	G5	2,822	7,244
	G6	772	
	G7	3,650	

Source: CIDB (2017)

2.5 The Management and Operational Teams in Tendering

In tendering process, the function of both the management and the operational teams are important. The management team is represented by the leaders and the operational team is represented by the evaluators. The

leaders enable the mission while the evaluators enable the process. According to the enablers derived from the European Foundation for Quality Management (EFQM) as identified by Oladinrin and Ho (2015), the leadership enabler is regarded as the most important followed by the process enabler (Figure 2). In Malaysia, leadership is conducted at the

management level and the process is conducted at the operational level where the evaluators are the key players. The two teams will have to work hand in hand. Communication is very important to get both teams (Figure 3) to support each other's needs. In a series of activities within a process, the

enablers take turns to become a priority at different points of time. After the tender is being advertised and contractors submitted their documents, this is when the process enabler becomes a priority for screening by doing the filtration

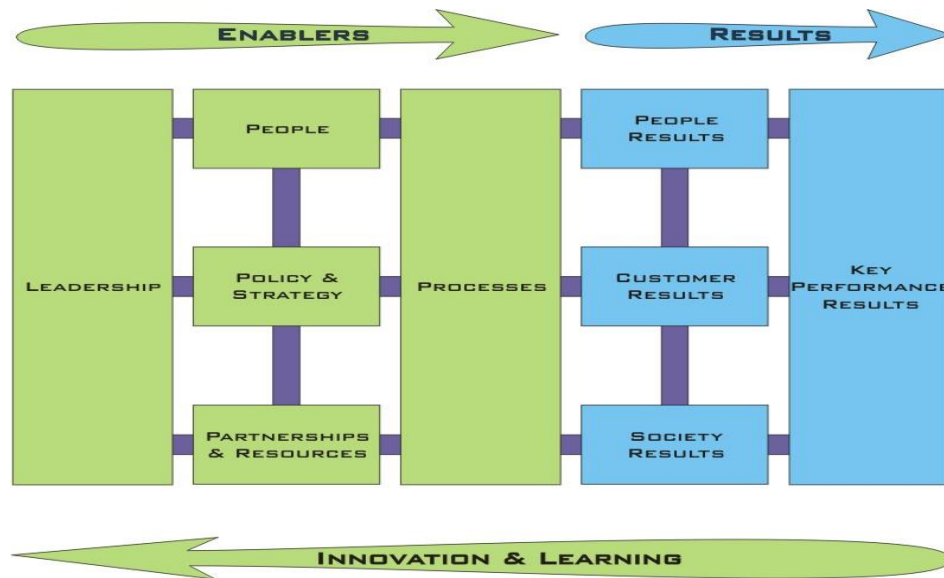


Figure 2: The EFQM Model

Source: The University of Warwick (2009)

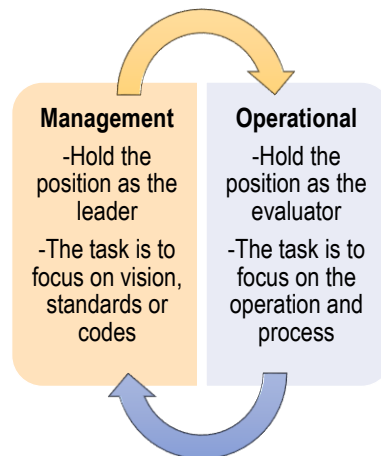


Figure 3: The Functions of the Management Team and the Operational Team

In tendering, the existing system and procedure are there, including the codes of conduct, for example, the Code of Ethics for Contractors by CIDB (2008). However, manipulation still takes place. That is why there

is a need for translating the guides in the code with the combination of the procedure in the current tendering practice into a process for contractors' document submission

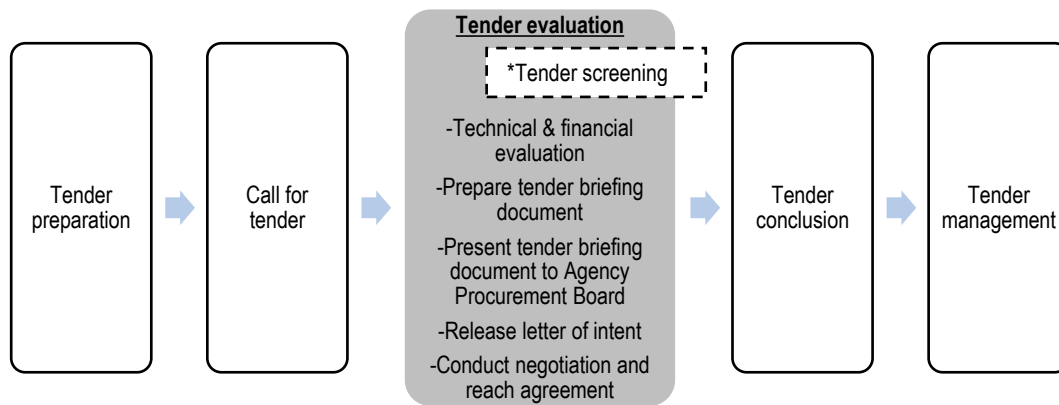


Figure 4: Tender Evaluation Activities in Tendering Process

Source: Ministry of Finance Malaysia (2016)

2.6 Get it Right the From the Beginning

Modern construction is moving towards long-term relationship. Being trustworthy and reliable are important to build a reputation in the industry. In reality, the relationship of the decision makers with the contractors can lead to bias and unethical conduct (Safa et al., 2015).

The total quality management principle, i.e., 'get it right the first time' is important for the contractor selection in tender evaluation (Wilkinson, Redman, Snape, & Marchington, 1998). Getting to award the right contractor is vital to get an accurate and realistic result (Safa et al., 2015).

The contractors are required to uphold their highest integrity during the tendering exercise especially in relation to the submission of tender documentations. The validity of documents submitted are not being questioned if there is no suspicious evidence arise when being checked by the evaluators and it merely depends on the evaluators to detect any irregularities in the documents (Ibrahim, personal communication, November 18, 2016).

It is the job of the evaluators to examine whether those records are genuine, correct, and updated. This leads to working more than those stated in the job scope, without the conscience that the management or the leader imposes extra work and could cause demotivation (Lindebaum et al., 2017). Somehow, according to N. A. Shamsudin (personal communication, October 7, 2016), in practice, the evaluators do not have a direct authorisation to examine the authenticity of the records in the documents

especially when it comes to financial statement and experience of work with private institutions. In relation to this issue, according to Armando and Ponta (2014), a question of the high-level authorisation requirement is of paramount importance.

Furthermore, another constraint of the evaluators is the tender validity period (Ibrahim, personal communication, November 18, 2016). Eventually, the forged documents could potentially get their way through the selection process and severely influence the recommendation for a successful tenderer. In relation to this, buildings took longer period to complete, finished buildings need major repair works, buildings face failure during occupation, and threaten the lives of the occupants are some of the common problems associated with the construction industry (Abdul-Rahman, Abd-Karim, Mohd Danuri, Berawi, & Yap, 2007; de Araújo, Alencar, & de Miranda Mota, 2017; Jelodar, Yiu, & Wilkinson, 2016; Liu, Wang, & Wilkinson, 2016; Rosenfeld, 2014).

As shown in Figure 4, the tender evaluation process starts with the evaluation on the technical and financial capabilities, skipping the screening of the tender applications. Henceforth, this preliminary research was conducted in an attempt to explore the existence of ethics-related issues during tender evaluation and established the need for tender screening. This research is crucial in order to suggest the way forward to elevate the study in this area.

3. RESEARCH METHODOLOGY

The research methodology for this preliminary study was qualitative where

telephone interviews were used as its data collection method.

3.1 Telephone Interviews

The telephone interviews were conducted because of the time taken to reach the participants is faster compared to face-to-face interview. This method was chosen to save the travelling time.

3.2 Data Organisation and Preparation

The telephone interview process, as described by Burke (2001) and Burnard (1994), started with preparing the interview protocol according to the research questions. A structured interview was carried out for its easiness to categorise and analyse the data. The planning for the interview was to answer four questions. The first question is to find whether the participants, during their service in the current body, have ever encountered any occurrence of unethical conduct, especially falsification of documents by the contractors upon tender application submission. If the answer is 'yes', it is then followed by the second question on the frequency of the occurrences, and the third question, on the registration grade(s) of the contractor(s) involved. The fourth question is imposed either after the third question or after the first question being answered 'no'. The question is on the action(s) taken upon discovering the unethical conduct.

Interviews were scheduled with the relevant construction bodies to ensure important variables related to ethics in construction are not ignored and to capture the general practice in the handling of ethics-related issues in the construction industry. As suggested by Guest, Bunce, & Johnson (2006) and Mohd Danuri, Mohd Ishan, Mustaffa, Abd-Karim, Mohamed & Hanid (2016), the following criteria have been developed to guide the researcher in the selection of participants using purposive or judgement sampling approach:

- i. The participant must be involved in contract administration practice, especially in tender evaluation exercise. According to Cheung and Suen (2002), participants who are very experienced, knowledgeable, possessed good skills, and hold senior managerial positions in the industry were essential, so that their views provide a good reflection in the field of research. To ensure

homogeneity of the participants, the interview was directed to the persons holding the position to evaluate the contractors' tender submission, regardless of the names of their designation. Their work must be related to contract administration, tender evaluation, or managerial decision making.

- ii. The localities of the chosen interviewees were in Kuala Lumpur and Selangor, to ensure a manageable amount of data, and due to time constraint of the grant issued, it would be difficult for this study to use the entire population in the quest of gaining knowledge about the tendering practice (Sekaran, 2006).
- iii. Because contractors of lower grades (G1 to G4) are permissible to submit quotations only, after a deliberation on the similarity between a tender and a quotation in terms of the idea, concept, practice (including evaluation and selection processes) and purpose (to award the project to one competitive qualified bidder), the research widened the scope to include for quotations as well. The advantage was to have a wide spread of contractor grades for the research to focus on.

This research involved sixteen participants. The adequacy of this number is supported by Bertaux (1981), agreeing to fifteen responses, Smulkoski (2007), ten to fifteen, and Kuzel (1992), six to eight because of the homogeneity.

According to Maykut and Morehouse (1994), the data is adequate because there is no new information or new major concepts emerged in the last few interviews. The point is called saturation point (Strauss and Corbin, 1998) or redundancy (Lincoln and Guba, 1985). Patton (1990) agreed with the assertion that validity and richness of qualitative information should be according to the richness of information of the selection and analytical capabilities instead of the number of the participants. This is reinforced by Guest et al. (2006) proposing that saturation often occurs around twelve to fifteen participants in homogeneous groups. Homogeneous in this research refers to the same position of the interviewees where their job scope is to evaluate the contractors' bids upon tender application submission.

3.3 Data Collection and Management

The length of interview was in the range of fifteen to forty minutes. Recording was done by taking notes during the interview. A foreseen challenge is to lose the data in between the conversation because the expression of the participants could only be anticipated as the real expression could not be seen. To encounter the challenge, the researcher repeated the answers for confirmation on the information given.

This approach tallied with Irvine, Drew, and Sainsbury (2013) where clarification is requested to check on the sufficiency and relevance of the responses during a telephone interview. Clarifications from both parties are necessary to avoid misunderstandings.

3.4 Data Categorisation and Connection

The raw data were typed according to the question numbers arranged in columns from left to right. The data needed to be understood to answer the research questions sufficiently. The data were read and re-read to find the sentences that could be linked with the research questions. This process is crucial to be done as soon as the call is over to avoid the researcher from forgetting any important information. Then, the important points were labelled and highlighted.

The first to the third questions were direct questions, but the fourth needed interpretation of the description. The highlighted points were interpreted and consequently categorised into a few groups. Later, they were given suitable themes.

3.5 The Advantages and Disadvantages

This method is found to be less bias compared to face-to-face, because in a face-to-face setting, people tend to be judgmental and carry their first impression throughout the interview. Any problem regarding reliance on first impressions does not exist because the interview was done by telephone, and not face-to-face.

The disadvantage of the telephone interview is the tendency to ignore conflicting information. This challenge was overcome by repeating the questions and answers to confirm the information, especially on the unusual or new information.

The interviewer had to speak up to indicate that they were still on the line. To maintain a natural response, avoiding over or under reaction was a challenge. To handle the situation, the interviewer needed to be focused and calm along the session.

Another challenge is when there is too much data to handle. What the interviewer did was to ask the interviewee to slow down and at any opportunity to interrupt, the interviewer repeated the data for confirmation to stall the time.

4. ANALYSIS

4.1 Background Analysis

Gathering the information took four months. Out of forty-three participants identified, (inclusive of local authorities and other agencies), sixteen participated, which represented over one third of participation rate. The number represented nine local authorities and seven agencies.

In disclosing information, the local authorities were open (Bonsón, Torres, Royo, & Flores, 2012; Kavanaugh et al., 2012; Linders, 2012) compared to agencies. A number of agencies turned down the request for information, partly because of their interest and image (Spiekermann, Korunovska, & Bauer, 2012) and partly because of their strict policy. The need to have an agreement was agreed upon because one of the research processes is to get the consent from the participants. Possibly, involuntary participants were avoided because the trust was not instilled from the beginning. The situation led to other theories related to the environment and political influence, which are not discussed in this paper. From this point forward, the discussion involved the interviews with these sixteen participants.

4.2 Presence of Unethical Conduct of Contractors during Tender Submission

From the total participation, seventy five percent of the participants agreed on having encountered unethical conduct by contractors during tender submissions. Out of the percentage, sixty seven percent were from the local authorities and thirty three percent were from the agencies. The responses stating not having encountered any unethical issues from the contractors, three quarter of the responses were from the

agencies and another quarter were mentioned by the local authorities.

One of the local authorities admitted that she did not experience fraud in documents. A question was asked to find out whether there is a system that can prevent or avoid fraud. If there is one, it could be used as a benchmark for other local authorities to adopt. Surprisingly, the answer was that it trusted completely on the contractors' documents because all contractors must sign the required letter of undertaking. In the letter, it states that the contractors are bound to supply all the correct information in their applications. To highlight, the contractors may just sign to complete the forms among other compulsory submissions. As there is no system to benchmark, this move is considered risky to the local authority itself. In the researcher's opinion, the local authority should at least do some random checking on the submissions occasionally to see whether their practice on trust is still strong and accountable.

On the other hand, the reasons of those other three agencies for not experiencing such occurrence were due to a small number of tender calls in a year (less than ten), which do not require financial or bank statements unless specially requested by the management and deal with copied documents only.

The agencies also practised to check the contractors' information against MOF and Companies Commission of Malaysia (SSM) information for the scope of work, business nature registered by the contractors, and checking of registration status of the contractors via CIDB application. This checking is done manually by making calls and visits. This method establishes there is no system to curb fraud by contractors at the point of tender submission for evaluation.

4.3 The Frequency of Document Falsification Occurrences

The participants were asked on how many document falsification occurrences had they come across, say, in a hundred tender application submissions. Their answers had been recorded and grouped into low, moderate, high, and very high. The low group was noted for the falsification occurrence of one to three in a hundred tender application submissions. The moderate group was for four to six occurrences. The high group was for seven

to nine occurrences. The very high group faced ten or more occurrences in a hundred tender application submissions.

The frequency of the document falsification occurrences encountered by the tender evaluators depends on a lot of factors; how many calls for tender are made, how big the amount of tender is, the tenders are called for which contractor categories (which grades), how influencing is the economy and competition during the time of year, how much allocation is there for projects (Delgado, Porter, & Stern, 2010; Glaeser, Rosenthal, & Strange 2010).

In light of these factors, not all participants who responded "yes" to the previous questions were able to give an answer or an estimate of the document falsification occurrence frequency. Only ten answers managed to be obtained, in which six of them were from the local authorities.

Half of the responses were recorded into the low group. Thirty percent of the responses came from the local authorities and twenty percent of the responses came from the agencies. The frequency of having encountered moderate number of cases was thirty percent, where ten percent of the responses came from the local authorities and twenty percent of the responses came from the agencies. However, the rest twenty percent of the responses made a significant gap, whereby it leaped over the high group straight to the very high group. The group was encountered only by the local authorities and none by the agencies. This could be related to the numerous amount of projects offered by the local authorities compared to the amount of projects offered by the agencies.

To curb from awarding these fraudulent contractors the projects, the evaluators need to put an extra effort to identify and discard their applications. However, it is unfair to put the burden of other people's bad behaviour onto those who have other important job and time scope to be fulfilled instead of carrying out an investigation, which is not what they are expected to do. They already have their deadlines to commit to, and the last thing they need is a distraction keeping them from their originally assigned tasks. Indeed, it is best if no contractors cheat at all. However, that is difficult to expect because the situation depends on the surrounding factors. Contractors are human, and human

behaviours, even though hard to change, are not static, thus not dependable.

4.4 The Document Falsification Occurrence According to the Contractor Registration Grade

All contractors must register the grades and get the Registration of Contractor licences from CIDB. Other than the licence, for Government projects, Sijil Perolehan Kerja Kerajaan (SPKK) is required as an addition to the licence. SPKK is also issued by CIDB but this study concerned on the Registration of Contractor licences only. Therefore, the discussion of the grades addresses the CIDB grade classifications.

According to the interview, the inclination to submit the falsified documents fell on the categories of contractors of the lower grades, mostly involving the G1 contractors, at twenty-seven percent rate. The G2 and G3 contractors followed with twenty-three percent each. The G4 contractors were at nineteen percent. The total percentage for these lower grades was eighty two percent, a much substantial amount compared to the upper grades. The upper grades were less prone to the conduct where the G5 and G7 contractors were found at four percent each. No occurrence involved the G6 contractors.

This is fairly anticipated because the contractor companies of higher grades (G5 to G7) are likely to be listed in Bursa Malaysia, which make their profiles accessible by the public. They must maintain the good reputation to sustain in the board because their documents can be easily checked against their profiles.

4.5 Actions Taken Upon Encountering Falsified Documents

In cases where falsified documents were found, the most popular action taken by more than half of the local authorities and agencies was to immediately disqualify the application.

This practice instantly fails the application and it may extend into blacklisting the companies from entering the future bids.

Besides automatically disqualifying the tender application, a quarter of the participants brought the case to the internal board or committee where their discretion and advice were sought. This committee

would decide whether to let the tender pass for evaluation, to disqualify the application, to blacklist, or to suspend the companies from entering the bid for coming project(s). Normally, the result was to blacklist and suspend the applicant.

Apart from an internal action, the case might also be brought forward to the external parties, for example to CIDB or MOF. Then, they would investigate the case and if the contractor was found guilty, the licence could be suspended or forfeited.

Nevertheless, a small number of participants stated that there was no action taken upon encountering the forged documents, and the contractors would still be in the running for the tender award.

5. DISCUSSION

This article highlighted the unethical issues during tender submission. Surprisingly, the findings showed that the falsification of documents by the tenderers was identified as early as at the tender submission stage. The industry is facing the issues yet there is little mechanism to tackle the problem. This issue could possibly reduce the competitiveness of a tender. The initiating phase in the Project Management Process Groups needs to be straightened to be correct. It is important because as agreed by Abdul-Rahman et al. (2007), it affects the next phases of the process and the overall project performance, on the triple constraints of time, quality, and cost of projects. Even though the guides and codes are spelled out by some countries, they remain only on paper. There must be a mechanism to put it into a working procedure for the contractors to comply.

The frequency of the unethical occurrences is correlated with the population of the registered contractors (Table 1) according to their grades. The higher the number of contractors in a registration group, the higher the occurrence of unethical conduct found during tender submission. It shows high competition influence the tendency of the contractors to become unethical. Because the number of contractors in the lower registration grades is large, it makes the competition tough, hence, the unethical conduct.

Somehow, as illustrated in Figure 3, the order of the leader in the management team, some of the companies do not require bank statements to be stamped by the financial

institutions, because it will prolong the duration to evaluate the tender. It is also almost impossible to make the evaluators do the checking with the financial institutions on the supporting documents for each and every tender submitted because it is tedious and time consuming.

Furthermore, the huge concern here is time. The evaluation phase will elongate and the burden falls onto the person in charge, i.e., the evaluator. For every project, time is of the essence and it may drag other constraints too.

Most of the local authorities and agencies in the industry do not have a way to tackle the issue at the point of tender submissions, hence, the dependence by the management team on the operational team to filter the fraudulent contractors. The role of the leaders in the management is important to the evaluators in the operational team, similarly found in the research by Oladinrin and Ho (2015). Ozorhon, Abbott, and Aouad (2014) stated that innovation adoption is hard because of the nature of the parties in construction that is resistance to change. They then supported that the leaders should take the role to eliminate the barrier. The support to honour and uphold the procedure depends highly on the leaders.

Because some of the participants could not remember or even estimate the number of cases they had encountered, it is suggested for the companies to practise the record keeping as concurred by Basu, Bag, Das, and Razario (2017), at least for their internal reference. It is suggested for another mechanism to be inserted in the middle of the EFQM Model (Figure 2) for the management team to assist the operational team (Figure 3) with regards to the tendering procedure.

6. CONCLUSION

The establishment of the findings of the results in this research will serve as a preliminary study for further research of ethics in construction industry, particularly in relation to tender evaluation processes.

The information technology offers wide and tremendous benefits to many sectors (Naoum & Egbu, 2015; Safa et al., 2015). With various frauds detecting software available, falsified documents could be detected (Newman, 2013; Wager, 2013). The integration of the appropriate software customised to the architecture, engineering

and construction (AEC) industries and the competitive intelligence applications, at the right time, may offer a further standardisation for tender evaluation processes and enable its industry-wide acceptance and implementation.

The construction industry should make use of the competitive intelligence and the emerging digital tools in the AEC industries throughout the developing and developed countries (Rosli, Razak, & Younus, 2016) to improve a bidding strategy and evaluation. An improvement mechanism should be carried out for the benefit of the construction industry. Future research should focus on developing a framework of an integrated system that supports the tender evaluation process with the information workflow among various sources. To start with, the system may look into the mistake-proofing mechanism at the beginning of the process. The customisation of the mechanism should take the inspiration from the poka-yoke inadvertent error prevention approach.

The early detection and prevention mechanism to block the fraudulent contractors from being able to apply for tender will directly support the evaluators in the tender evaluation process, and indirectly strengthen the image of the construction industry.

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