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Research paper

Factors Contributing to Fraudulent Practices in Construction Project Life Cycle

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Abstract

This article managed to identify and complie factors contributing to fraudulent practices throughout the construction project life cycle from many research works conducted globally on fraudulent practices in the construction industry. These extracted fraudulent factors were mapped in the matrix form to check for the similarity among the factors. Finally, 42 contributing factors were accepted are parked into 5 stages of Construction Project Life Cycle. After checking frequency, the major factor for every stage are getting project approval in planning stage; collusion between tenderer and public officer in design and tendering stage; inadequate compliance with design for audit and report in construction stage; avoidance of difficulties in contract inspection in finishing stage and finally using substandard materials and services in maintenance stage.

Keywords: *Fraudulent, construction industry, project life cycle stages*

1. Introduction

Malaysia construction industry contributes significantly to the increased of Gross Domestic Product (GDP) from RM12,582 Million in the fourth quarter of 2016 to RM13,398 Million in the first quarter of 2017 [43]. In spite the achievement of the construction industry, there are many issues engulfed the industry and fraudulent is considered as the most famous issue as revealed by Transparency International's Bribe [14]. Fraudulent issue is a main concerned in Malaysia as the country is ranked 55 among 176 countries in corruption index [44]. Since fraudulent issue is dominant to construction industry, it affects the development and reputation of the country. The fraudulent practices happens in every stages of the construction project life cycle which needs to be highlighted and shared amongst construction community and this may reduce the fraudulent activity in the industry [39].

This article compiled the causes of fraudulent that uncovered by previous researchers and arranged these causes throughout the project life cycle.

2. Fraudulent in Construction

Fraudulent is defined as abuse of power by authority or contractors through forms of embezzlement, fraud, extortion, bribery/kickbacks, nepotism or favouritism, includes theft of state assets and diversion of state revenue for personal advantage [50]; [45]; [47]; [19]. There are various ways and forms of fraudulent which are classified by several researchers and amongst them are as table 1.2;

Table 1.2: Terms of fraudulent used by researchers

Terms	Definition
Bribery [34]	Demanding, promising or accepting payment either in formal or gift.
Fraud [30]	Misconduct and manipulation of document or information by public officer in way to gain personal advantage.
Embezzlement [34]	Malpractice in handling funds by individual whom the funds have trusted.
Kickback [39]; [34]	Agreement designed by individual or supplier in way to seek favourable decision from person in power.
Collusive [45]; [42]	An agreement between parties in a way to raise and fix prices to appoint winner or favour one contractor.
Extortion [5]; [30]; [47]; [34]; [37]	Treating, harm or forced eradication bribes from vulnerable project parties.

Anticipatory [5]; [34]	Gain favourable decisions from authority by bribe.
Conflict of interest [45]; [47]	Circumstances where strife of individual or parties' private interest when handling duty in project's objective
Bid-ringing-Nepotism-Patronage-in under collusive. [30]; [6]; [3]; [47]	Raise price or lower the competition of tenderer to favour one tenderer
Insider trading and influence [46]; [47]	Influence the decision making and information of material and transaction made.

Construction industry is known for its intense competition amongst the contractors to acquire either the government or the private projects. This circumstance may lead to fraudulent practices either at the early stage or throughout the project life cycle. As reported by [44] and [28] which stated that there are several situations lead to fraudulent practices such as initiative to secure the project, avoidance of difficulties, earning more profit and cover up low quality of works and materials. According to [52], the construction project involves several stages which can cause difficulties in monitoring and also conflict of interest amongst parties. Low wage earned by construction workers can also contributing to fraudulent in the construction industry due to desperation of living costs [26]. Furthermore, the fraudulent can be stimulated from public officers and political figures in form of pressure and influence to the consultant or contractor [37]; Selinsik, 2015; [4]; [32]. These situations significantly raised the fraudulent practices in the construction industry. There are several ways used by contractors to secure projects such as inducement fee known as 'under table money' and arranged the dealings amongst the contractor to make quick gains without being trace by the authority [34]; [10]; [26]; [11]; [29]. There are cases where contractors bribing government officials to procure project due to high competition [13]; [15]; [17]; [31]; [35]; Selinsik, 2015). Among others way, the contractors or consultants give 'gifts' to public officer for them overlook certain points when inspecting the projects [37]; [52]; [9]; [33]. Collusion/conspiracy between construction parties usually happened during tendering stage to gain in-advance information regarding the new upcoming project which include estimated tendering price by client [1]; Selinsek, 2015; [51]. [16] has pointed out that several clients, designers, consultants, contractors and also suppliers are engaged in fraudulent practices. They involved either in giving or taking brides in several forms. These parties had been identified by several researchers as in table 1.1.

Table 1.1: parties involved in fraudulent

Researchers	Country	Parties
[16]	USA	Clients, Designers, Consultants, Contractor and Supplier
[27]	Malaysia	Contractors, Clients, Consultant, Engineers, Quantity surveyors, Architects and Authority
[35]	Pakistan	Politicians, Contractor, Clients and Public officer
[24]	Tanzania	Consultants, Architects, Quantity surveyors, Engineer and Contractor
[11]	South African	Government official (clients), Contractor and Sub-contractor
[29]	Israel	Contractor, Supervisory officer, Sub-contractor and Public officer
[22]	Malaysia	Governments, Project owner, Financiers, Consultants, Contractors, Sub-contractors, Suppliers, Partners and Agents

3. Impact of Fraudulent

Impacts of fraudulent in the construction industry are branched into types which are micro, moderate and macro. Micro impact is related to the construction project, while moderate impact is more on expansion strategies of global companies and macro impact related to social and economic of the nation [18]. Fraudulent in construction industry has significant impacts to economic growth, socio-economy equality, political development and reputation of a country. There are growing concerns to develop effective and preferably short-term anti-corruption strategies due to egalitarian effect which damages the interests of the poor people. Fraudulent negatively impacts the construction project in many ways which typically resulted to the increase of project costs [41]; [39] ; [48] due to exaggerated price of Bill of Quantities and unrealistic claims during the project construction [11]. Other consequence of fraudulent is the low quality of construction output due to the lack of supervision, low quality of material and stealing of construction material to cover up the loss of revenue. These have an impact on the life spans of the buildings which then reduce quality of occupants life [11]; [48]; [37] [39] Does;[13] [14] ;[39]-Account; [34]; [17]; [2]; [20]; [8].

3.1. Fraudulent Causative Factors

A total of 90 fraudulent factors were extracted from 11 academic articles related fraudulent practices throughout project life cycle. These 90 factors were then analysed for similarity checking to eliminate duplication of factors and finally reduced to 42 factors. Then the factors were relocated to 5 stages of project life cycle namely planning, tendering & design, construction, finishing and maintenance.

3.2. Planning Stage

Planning involves client and consultant agreement to create a set of plans that can guide the whole parties from design & tendering; construction; finishing and finally maintenance of the project. The plans created during this stage will able to manage time, cost, quality, change, risk and issues. It also helps to manage staff and external suppliers, to ensure the project is delivered on time and within budget [35]. However during this stage there is also tendency of occurring fraudulent practices which may affected the smooth delivery of the project. Identified fraudulent factors in this stage are as in table 2.0

Table 2.0: Factors lead to fraudulent practices in planning stage

Fraudulent Causative Factors	Related References											Frequency
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	
Planning – client and consultant												
1. Getting quick project approval	√	√			√	√			√			5
2. Using the political influence	√						√		√	√	√	5

3. Complex project with massive requirements				√	√							2
4. Competition amongst contractors	√		√	√					√		√	5
5. Contractors manipulate procurement								√	√		√	3
6. Inconsistency of procurement practice								√	√			2
7. Wrong estimation of project cost							√		√	√	√	4
8. Cheat or substitution of materials							√	√			√	3
9. Collusion between contractors and public officer	√					√			√			3
10. Greediness of contractor and public officer			√	√		√				√		4
11. Misuse of power of granting project			√	√					√	√		4
12. Leakage of tender information							√				√	2
13. Poor tender management									√	√		2
14. Avoidance of taxes and fees		√			√							2
15. Manipulating tender advertisement			√				√					2
16. Wrong estimation of BQ		√						√	√		√	4

In planning stage, there 16 identified factors which lead to fraudulent practices as in table 2.0. Three major factors are getting project approval; using the political influence; and competition amongst contractor.

3.3 Design and Tendering Stage

Design and tendering is the second stage of the construction phase where the employer's design team will detail out the design, together with framework and estimate price for the project. While tendering process involves bidding, evaluation, negotiations and awarding of contract ([35]; [29]). Documents for tendering include detailing design, breakdown of budget, overheads and turnover during the project [49]. This design and tendering stage also creates opportunity for fraudulent practices. Several researchers had identified factors which cause to fraudulent practices as in Table 2.1.

Table 2.1: factors in design & tendering stage

Fraudulent Causative Factors	Related References											Frequency
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	
Design & Tendering Stage – consultant and contractor												
1. Manipulation of tender evaluation		√	√	√	√			√	√	√	√	8
2. Collusion between tenderer and public officer	√	√	√	√	√	√	√	√	√	√	√	11
3. Culture of bribe	√	√		√		√				√		5
4. Political influence				√		√						2
5. Officer in charge of tender				√		√						2
6. Wrong of detailing design							√	√		√		3
7. Leakage of tender information								√	√			2
8. Conflict of interest and lack of integrity			√	√			√			√		4
9. Competitions amongst contractor		√			√							2
10. Lack of supplier and networking				√	√			√		√	√	5

This second stage of construction project life cycle, there are 10 identified factors which lead to fraudulent practices as in table 2.1. Referring to the frequency of the factors, 3 major factors being highlighted by researchers are leads by collusion between tenderer and public officer then manipulation of tender evaluation and finally, culture of bribe together with lack of supplier and networking. Unearthed of these factors will alert the construction practitioners in avoiding fraudulent practice during this stage of construction.

3.4 Construction Stage

Construction stage is the crucial stage in construction project life cycle [52] where construction processes or project execution or implementation of project or post bidding takes place ([41]; [52];[39] ;[48]; [12]; [35]). This stage consists of complex and numerous activities that involve many parties in decision making. Previous research works had identified fraudulent causative factors of this stage of construction life cycle as in Table 2.2.

Table 2.2: Factors in construction stage

Fraudulent Causative Factors	Related References											Frequency
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	
Construction – contractors and consultant												
1. Fake certification of supervision company		√			√		√		√			4
2. Lack of supervision by consultant and authority		√			√		√					3
3. Collusion between contractors and officer		√		√	√				√	√		5
4. Change order manipulation			√			√			√	√		4
5. Covering substandard work	√	√		√			√					4
6. Bias in selection of subcontractor				√	√		√					3
7. Avoid tax, rules and specification	√	√	√	√					√			5
8. Complexity of project due to changes of variation									√			1
9. Construction not comply with design	√	√	√	√	√	√	√	√	√	√	√	11

In construction stage as in table 2.2, there are 9 identified causative factors. However, 3 major factors which are Construction not comply with design then finally collusion between contractors and officer and avoid tax, rules and specification considered more commonly happened in this stage.

3.5 Finishing Stage

Finishing stage of the construction life cycle starts after the general construction work has been completed. This stage involves various activities such as testing, inspection and final clean up including approvals, certification from authorities and project handover ([52]; [25]). Several researchers had managed to identify the causative factor towards the fraudulent practices as listed below in Table 2.3.

Table 2.3: Factors in finishing stage

Fraudulent Causative Factors	Related References											Frequency
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	
Finishing – contractor, consultant and client												
1. The cost rendering not same as final cost		√			√							2
2. Manipulation of invoice					√			√				2
3. Avoid contract inspection, delivery works and services			√	√				√				3
4. Low quality of material and services		√			√							2

Based on 11 articles and previous research finding, the identified causative factor is 4. Thus, the table shows a major fraudulent causative factor is avoid contract inspection, delivery works and services mostly occur in finishing stage.

3.6 Maintenance Stage

This stage involves activities of inspection and routine repair works for extending the structure lifespan [8]. According to Occupational Safety and Health Administration (OSHA, 2003), maintenance is defined as making or

keeping a structure, fixture, or foundation in proper condition in a routine and scheduled, or anticipated fashion. In this stage, fraudulent practices are also common and factors toward this practice were uncovered by several researchers as in Table 2.4

Table 2.4: Factors in maintenance stage

Fraudulent Causative Factors	Related References											Frequency
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	
Maintenance – contractor												
1. Collusion between contractor				√		√			√			3
2. Intense competition between maintenance contractor			√	√								2
3. Using substandard materials and services	√		√	√					√			4

By referring to table 2.4, the researchers highlight most of maintenance contractors tend to use substandard material and provide low services so they can earn more profit in doing so.
Notes: [41]1; [52]2; [39]3; [40]4; [34]5; [10]6[12]7; [7]8; [35]9;[48]10 ; [29]11

4. Conclusion

Fraudulent practices in construction industry are quite common around the globe however its occurrences and severity depends on the enforcement of individual country. This article has identified and complied 42 factors which lead to fraudulent practices in every stage of the construction life cycle. It managed to identify most significant factors having high occurrences in each of the construction life cycle stages that are getting project approval; using the political influence; and competition amongst contractor in planning stage; collusion between tenderer and public officer; manipulation of tender evaluation; culture of bribe; lack of supplier and networking in design and tendering stage; inadequate compliance with design for audit and report; collusion between contractors and public officer; avoidance of difficulties with tax, rules and specification in construction stage; avoidance of difficulties in contract inspection, delivery works and services in finishing stage and finally using substandard materials and services in maintenance stage. With these identification factors, it will alert the construction community on the potential of fraudulent practices to occur and for researchers these factors could be applied for further investigative study.

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