

## CHAPTER II

### LITERATURE REVIEW

#### **2.1. Conflict in Construction Project**

A construction project is a temporary activity that has characteristics, a limited budget, and limited time. The implementation of construction project is carried out by both formal and informal organizations. A construction project could not apart from the collaboration from practitioners involved in the project such as owner, consultant, and contractor. The practitioners as mentioned above create a bond in a working relationship to achieve the main objective, which is successfully complete the construction project (Manson, 1993). A construction project can be said as a successful project if the project goals achieved, such as the project is completed on time, the project does not exceed the budget, and the quality is fulfilled (Atkinson, 1999).

Each construction project has its own difficulties and challenges, one of the challenges is conflict which can be the main factor that affects the project performance (Acharya *et al.*, 2006). Fenn *et al.* (1997) stated that conflict exists where there is an incompatibility of interest. Conflict is a process when there is an incompatibility in values or goals to be achieved which can affect the efficiency and productivity of work, both of which exist in each individual or relation with other people (Acharya *et al.*, 2006). Susila and Handoyo (2015) added that conflict is an action or situation resulting from differences of opinion or incompatibility between each practitioner in fulfilling their obligation of the contract.

Conflict may occur at every life cycle stage of a construction project (Wu *et al.*, 2017). Conflict must be well managed to prevent disputes (Fenn *et al.*, 1997; Cakmak and Cakmak, 2014). Al-Sibaie *et al.* (2014) added that conflict which not managed properly can lead to project failure. According to Awakul and Ogunlana (2002), conflict in construction affects the interest of many stakeholders in connection with big investments, conflict is unprofitable. Acharya *et al.* (2006) stated that conflict in construction projects is unavoidable and can cause prolonged delays in implementation, interruption, and suspension. Al- Sibaie *et al.* (2014) said

that conflict was a major cause of inefficiency and limited performance of construction projects.

## **2.2. Conflict Factors in Construction Project**

Levy (2012) mentioned in his book “Project Management in Construction” sixth edition, some factors leading to the conflict are mentioned below:

- errors, negligence, and ambiguities on project plans and specifications;
- incomplete or inaccurate responses between one party to another;
- inadequate responsibilities between each party;
- unwillingness to comply with contracts and inability to comply with standards performance;
- different site conditions from the contract document;
- unforeseen subsurface conditions;
- the failure of the project owner for the additional costs needed to accelerate the project or make up for project delay;
- loss of productivity;
- uncovering of existing building conditions which differ from the contract document;
- extra work or change order work;
- breaches of contract;
- deviation from the initial schedule caused by disruptions, delays, or acceleration of work;
- inadequate financial strength.

Acharya *et al.* (2006) researched the pertinent conflicting factors in Korean construction projects. With the AHP (Analytical Hierarchical Process) method was carried out to know the importance of the items to the perceived conflicts. This study shows that there are six critical conflicting factors in Korean context, they are: differing site conditions, public interruption, differences in change order evaluation, design errors, excessive contract quantities variation, and double

meaning of specifications. The most responsible parties for conflict that happened in construction projects are owner and consultant.

Al-Sibaie *et al.* (2014) researched the relationship between conflict factors and performance of international projects. Factor analysis is conducted to determine the factors that caused conflict and PLS-PM (Partial Least Square – Path Modelling) is conducted to know the influence of conflict to the performance. This study shows that there are six dominant conflict factors in international construction projects, they are: external, internal, control-related, knowledge- related, mismanagement, and social conflicts. This study also presents that there are significant relationship between performance and two conflict factors (internal and social).

Cakmak and Cakmak (2014) have been researched the main cause of disputes, the disputes were classified into 7 (seven) main categories they are: owner related, contractor related, design related, contract related, human behaviour related, project related, and external factors. After the main categories were determined, then the causes of disputes were classified into the main categories. ANP (Analytical Network Process) was carried out to determine relative importance of the different cause of disputes. The result of the research reveals that the most common dispute caused by contractor category.

Susila and Handoyo (2015) have been researched to determine the factor that caused conflict and the influence of the conflict toward the project success. Mean analysis is conducted to know the most factor that caused conflict and correlation analysis is conducted to know the influence of the conflict toward the project success. This research shows that there are dominant conflict factors in construction projects, they are: authority and responsibility are not clear, employee's placement is not according to the expertise, errors and omissions in design, equipment and material delay, errors in budget estimation, and approach to deals with problems/ from the correlation analysis which has been carried out, it shows that conflict and specification factor, human resources factor, management and organization factor, cost factor, and cultural differences factor have a low correlation to the project success.

Acharya et al. (2006), Al-Sibaie et al. (2014), Cakmak and Cakmak (2014), and Susila and Handoyo (2015) have been researched to determine the conflict factors in construction project. In this research, the variables of the conflict factor in this research were grouped into 6 (six) main category, they are: contract and specification, owner, consultant, contractor, human resources, and project condition. Then, the variables of conflict factor were chosen and classified to the main category. The results of the research about the conflict factors are presented in Table 2.1.

**Table 2.1. Conflict Factors**

<b>No</b>	<b>Conflict Factor</b>	<b>Author</b>
<b>1</b>	<b>Contract and Specification Factor</b>	
	Project scope definition not clear	Acharya <i>et al.</i> (2006)
	Change order	Acharya <i>et al.</i> (2006)
	Incomplete contract document and specifications	Cakmak and Cakmak (2014)
	Different interpretation in contract document and specifications	Cakmak and Cakmak (2014)
	The difference in the construction method	Acharya <i>et al.</i> (2006)
<b>2</b>	<b>Owner Factor</b>	
	Confusing requirements of the owner	Acharya <i>et al.</i> (2006)
	Poor system of management, supervision, and coordination from owner	Susila and Handoyo (2015)
	Owner is reluctant to check the project's condition	Susila and Handoyo (2015)
	Delay in making the decision and responding to problems	Acharya <i>et al.</i> (2006)
	Unrealistic expectation of the owner	Susila and Handoyo (2015)
	Acceleration of construction work	Cakmak and Cakmak (2014)
	An unclear mechanism in providing information request	Susila and Handoyo (2015)
	Late handover	Acharya <i>et al.</i> (2006)
	Errors in budget estimation	Acharya <i>et al.</i> (2006)
	Delay in running bill payment by the owner	Cakmak and Cakmak (2014)
<b>3</b>	<b>Consultant Factor</b>	
	Incompetent consultant	Al-Sibaie <i>et al.</i> (2014)

	Errors in design and specifications	Acharya <i>et al.</i> (2006)
	Incomplete design and specifications	Cakmak and Cakmak (2014)
	Defective design	Acharya <i>et al.</i> (2006)
	Errors in the calculation of work progress	Acharya <i>et al.</i> (2006)
<b>4</b>	<b>Contractor Factor</b>	
	Incompetent contractor	Acharya <i>et al.</i> (2006)
	Poor system of management, supervision, and coordination from the contractor	Susila and Handoyo (2015)
	Lack of understanding in the contract document	Susila and Handoyo (2015)
	Mismanagement of scheduling	Al-Sibaie <i>et al.</i> (2014)
	Work is not according to the time schedule	Al-Sibaie <i>et al.</i> (2014)
	Delays in work progress	Cakmak and Cakmak (2014)
	Errors in material use, labour, and work methods	Acharya <i>et al.</i> (2006)
	Defects in construction work	Acharya <i>et al.</i> (2006)
	The quality is not fulfilled	Acharya <i>et al.</i> (2006)
	Errors in costs estimation	Cakmak and Cakmak (2014)
<b>5</b>	<b>Human Resources Factor</b>	
	Employee's placement is not according to the expertise	Al-Sibaie <i>et al.</i> (2014)
	Number of employees are not in accordance with needs	Al-Sibaie <i>et al.</i> (2014)
	Unavailable skilled labour	Acharya <i>et al.</i> (2006)
	Lack of communication between team members	Cakmak and Cakmak (2014)
	Low productivity	Cakmak and Cakmak (2014)
<b>6</b>	<b>Project Condition Factor</b>	
	High level of project uncertainty	Susila and Handoyo (2015)
	Equipment and material delay	Al-Sibaie <i>et al.</i> (2014)
	Complex construction work	Susila and Handoyo (2015)
	Ineffective equipment's idle time	Acharya <i>et al.</i> (2006)
	Change of site condition	Cakmak and Cakmak (2014)

### **2.3. Project Performance**

Conflict can be the main factor that affects the project performance. Therefore, monitoring and controlling the progress of the project is needed. According to Al-Sibaie *et al.* (2014), the factors that show the performance of a project are mentioned below:

- accurate cost estimation;
- construction project is completed on time according to the schedule in contract document;
- work results are in accordance with the quality and specifications that have been planned;
- no rework during construction work;
- no accident happened during construction work;
- all parties involved in the project are always informed of the project and are satisfied with the results of the work.

