

STAKEHOLDERS' PREFERENCE TOWARDS THE USE OF CONFLICT MANAGEMENT STYLES IN DUAL CONCERN THEORY IN POST CONTRACT STAGE

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ABSTRACT

The tendency of having conflicts is extremely high in construction industry due to the complexity in relations, lengthy process and multidisciplinary involvement. It can be seen that conflicts in post contract stage have more tendency to increase due to number of reasons. Even though the industry uses conflict management styles, still there is no sign of decreasing conflicts which are subsequently converting into disputes. Therefore, the requirement of conflict management should receive a prior consideration. Construction professionals commonly use dual concern theory as their conflict management style. However, they are incapable of using this management style effectively according to the conflict situation so that the amount of conflicts is rising. This creates a current issue of minimizing conflicts by effective management because it directly affects the project success. Since conflicts disturb the proper coordination and corporation of human resource and cause project delays, effective conflict management in construction projects leads the project towards the sustainable construction practice by creating a proper coordination between all relevant parties and eliminate unnecessary project delays caused by conflict environment. Accordingly, the aim of this study is to identify the stakeholder preference towards the conflict management styles in Dual Concern Theory in post contract stage. A comprehensive literature review and an interview from selected case studies were conducted to collect data. The findings of this study prove that having a proper conflict management can achieve sustainable construction practices such as using human resource efficiently, willingness to work and effective time management.

Keywords: Conflict; Construction Industry; Conflict Management; Dual Concern Theory; Post Contract Period.

1. INTRODUCTION

Construction industry can be identified as one of the fundamental industries which are essential for the development of any nation since the physical development of construction projects such as buildings, roads, and bridges is one of the measures of the economic growth all over the world (Alzahrani and Emsley, 2012). It deals with the complexity of construction by decomposing the whole project into several sub projects, which are let or sublet to several general contractors and subcontractors (Chua and Song, 2003). Due to the complexity in relations, lengthy process of construction and multidisciplinary involvement in the construction project, the tendency of having conflicts is extremely high (Jaffar *et al.*, 2011). Conflict can be managed, possibly to the extent of preventing a dispute resulting from the conflict (Fenn, Lowe and Speck, 1997). According to Popovic and Hocenski (2009), conflicts cannot be eliminated. They only can be managed in such a way that they never developed and become a disturbance to the project success. According to many writers, Dual Concern Theory is one of the most commonly used conflict management styles all over the world. The theory argues that conflict management can be effectively done by considering the behaviour; as a meaning of high or low concern for self, combined with high or low concern for others (Chou and Yeh, 2007). When consider deeply about conflict management, it can be understood that well managed conflicts lead to sustainable construction practice. Here, sustainability can be described as preserving the human resource (professionals) for future generation while effectively taking their service at

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present. In order to preserve the professionals, it is important to increase their willingness to work by mitigating frustration. The basic source of frustration is having conflicts therefore, by having proper conflict management, frustration can be mitigated. Ultimately, managing conflicts will preserve the human resource to the future. The aim of this study is to identify the stakeholders' preferences towards the conflict management styles in dual concern theory in post contract stage. This paper initially provides a comprehensive literature review in order to identify the prevailing knowledge about the conflict management in post contract period and application of dual concern theory. Then the findings of three case studies are presented and further subjected to a discussion. Finally, conclusions are drawn from the findings.

2. CONFLICT MANAGEMENT

2.1 WHAT IS A CONFLICT?

Fisher (2000) defined conflict "as an incompatibility of goals or values between two or more parties in a relationship, combined with attempts to control each other and antagonistic feelings towards each other". A recent study by Popovic and Hocenski (2009) on the Conflict Management defined a conflict as a struggle or contest between people with contrasting needs, ideas, attitudes, values, or goals. Therefore, a conflict can be defined as a situation where two or more parties in a relationship have incompatible approach towards a common goal. According to Acharya *et al.* (2006), there would be no conflicts in a perfect construction world but there is no such perfect construction world in the real context. Therefore, conflicts are inevitable. Fisher (2000) stated that nonexistence of conflicts usually signal the absence of meaningful interaction. Therefore, having conflicts leads the project into success. But the success can be only achieved through proper management of conflicts.

2.2 TYPES OF CONFLICTS AND THEIR SOURCES

Many types of conflicts can be seen in construction industry. Acharya *et al.* (2006) have listed various types of conflicts that can be taken place in construction project along with their sources. They have categorized the conflicts into five major categories based on the parties involved in the construction project. They are, owner evoked conflicts, consultant evoked conflicts, contractor evoked conflicts, third parties evoked conflicts, and other project matter evoked conflicts. They further explained the sources of aforementioned conflicts. Confusing requirements of owner, excessive change orders, supremacy of owner/consultant, errors and omissions in design, non-payment to subcontractors, conflicts in documents, lack of communication and union strikes are some of those sources which can be commonly seen in any construction project.

Similarly, Fisher (2000) pointed out five major conflict types that can be commonly seen in the industry based on the nature of the conflicts once it has been examined from outside of the conflict situation. They are interpersonal conflicts, role conflicts, intergroup conflicts, multi party conflicts and international conflicts. Interpersonal conflicts occur when two people in the construction project have incompatible needs, goals, or approaches either in their personal relationship as well as professional relationship. The major source for this kind of conflicts is poor communication. Role conflicts occur with having real differences in role definitions, expectations or unclear boundaries of responsibilities between individuals who are interdependent. The sources for this type of conflicts are poor communication, lack of information, documentation errors and delegation of power. Intergroup conflicts occur between parties involved in the construction. There are many sources for this type of conflicts such as design errors, documentation errors, delays, non payments, differences in attitudes and variations. Multi party conflicts occur between two or more parties. It can be happened between direct stakeholders and indirect stakeholders as well as between the project and the outside parties. The major sources for this type of conflict are environmental hazards, land acquisition, improper garbage disposal and pollution. Sometimes, a construction project can be a threat to another country or even to the whole world. Then international conflicts can be seen. According to Thalagodapitiya (2010), the causes of construction conflicts have numerous reasons including unrealistic expectations, change of scope, differing site conditions, delays, poor workmanship/quality, adverse weather, and

many others. He further explained that the people factors have the biggest impact on project dispute potential, while the process and project attributes have important but less influential impact respectively.

2.3 EFFECTS OF CONFLICTS

Tjosvold (2006) argued that conflicts are not always destructive. They can be constructive as well if they are well managed. He further stated that neither conflicts just happen nor escalate by itself. It is people who involve in the conflict situation make choices which escalate conflict or lead to more constructive outcomes. Similarly Popovic and Hocenski (2009) explained that conflicts can provide beneficial results. Deutsch and Coleman (2000; as cited in Fisher, 2000) stated that the way in which conflict is handled decides whether the ultimate result be constructive or destructive. Therefore, it can be said that constructive conflicts provide food for thought to the professionals and derive creative solutions and enhance the project success whereas destructive conflicts create complicated situations which weaken the stability of project progress. However, the ultimate result of unmanaged conflicts will be disputes which require expensive dispute resolution with lot of wastage of time, money and energy. Third party has to be involved in the process of dispute resolution and he has to be paid. In addition, considerable time have to be spent for the dispute resolution procedure so that it will consume the time allocated for construction. By the end of the dispute resolution, all related parties will be frustrated and tired. This will decrease their efficiency and willingness to work. Yiu and Cheung (2005) explained that if the level of conflicts escalates continuously, it may become psychological struggles between the contracting parties and manifests as disputes and the unfortunate outcomes will be loss of productivity and increase in cost of construction.

Conflicts can be managed, without allowing it to escalate into a severe stage and become a dispute (Fenn, *et al.*, 1997). If the conflicts escalate into their severe stage (disputes), it will be ended up with costly litigation (Adnan *et al.*, 2011). According to Thalgodapitiya (2010), it is visible that disputes generate a considerable damage to a construction project. He further said that litigation in construction industry is continuously increasing in the past few decades due to various factors. Since time, money and energy are so precious for the project, they cannot be wasted. Therefore, managing construction conflicts is essential for the successful completion of the project. Fisher (2000) determined that escalation of conflicts make them more difficult to manage. According to him due to the fear of one party towards the others and defensiveness will feed the conflict and lead it to quick escalation. Friedman *et al.* (2000) stated that conflicts will shape the employee's social environment, stress and relationship with others. According to Adnan *et al.* (2011) conflicts may occur several serious effects such as delays in development of the project, reduction of requirements due to unavailability of enough time, reduces performance of employees and broken professional relationships.

2.4 WHAT IS CONFLICT MANAGEMENT?

Generally, management can be defined as “the process of dealing with or controlling things or people” (Oxford Dictionary, 2013). Therefore, conflict management can be defined as the process of dealing with or controlling conflicts. According to Popovic and Hocenski (2009), Conflict management is the principle that all conflicts cannot be resolved, but learning how to manage conflicts can decrease the destruction they occur. Ozkalp *et al.* (2009) described that conflict management is more important than conflict resolution because in practical context, conflicts are hard to resolve but can manage by using a proper strategy. On the other hand, Leung *et al.* (2005) stated that different dimensions of conflict resolution have to be identified in order to manage the conflict well in the complicated construction industry.

3. CONFLICT MANAGEMENT IN POST CONTRACT STAGE

Post contract stage can be identified as the time period which starts from the commencement of construction to handing over the project to the owner. The stakeholders who involve in this stage are

contractors (main contractor and sub contactors), sponsors, owner group, design and supervision consultant team, suppliers and agents, and labour force. In post contract period, many professionals and parties are involved in the construction that have their own values, beliefs, interests, education and needs. Therefore, the tendency of having conflicts is more when compared to pre contract period. According to Kumaraswamy (1998), conflicts are arising because of the involvement of more stakeholders with different cultures, disciplines and diverse objectives which can be highly seen in post contract stage. Since the design is continuously changing due to reasons such as impracticability, design errors and changes in client's requirements, the conflicts that can be seen in the pre contract period probably can be seen in the post contract stage (Ng and Skitmore, 2000). Therefore, it is very important to have a clear idea about the effective management of those conflicts in post contract stage because they directly provide bad effects to the project success (Awakul and Ogunlana, 2002).

4. DUAL CONCERN THEORY

The dual concern theory, proposed by Pruitt and Rubin (1986), is the most often cited theory in conflict management literature (Chou and Yeh, 2007). However, according to Friedman *et al.* (2000), the conceptual foundation of Dual Concern Theory was laid by Blake and Mouton's (1964). The dual concern theory argues that conflict management can be effectively done by considering the behaviour; as a meaning of high or low concern for self, combined with high or low concern for others (Chou and Yeh, 2007). The Oxford dictionary (2013) defines effectiveness as “the degree to which something is successful in producing a desired result”. According to Popovic and Hocenski (2009), the principle of conflict management is not working for eliminating of conflicts but learning how to manage them and decrease the odds of non-productive escalation. Therefore, effective usage of conflict management styles in dual concern theory means that the degree to which it is successfully used to control and decrease conflicts in such a way that they never become a disturbance to the project success. According to Chou and Yeh (2007), there are five conflict management styles in dual concern theory. They are problem solving style, obliging style, forcing style, avoiding style and compromising style.

4.1 PROBLEM SOLVING STYLE

Both Friedman *et al.* (2000) and Cheung and Chuah (1999) identified this style as collaborating or integrating style. If further described, usage of this style for conflict management will lead to high concern for both self and others. Fisher (2000) recognized this method as a win-win approach. According to him, this enables to achieve the goals of all parties who are in the middle of a conflict situation since they accept the conflict as a problem that should be solved together rather than winning a war against each other.

4.2 OBLIGING STYLE

Chou and Yeh (2007) described this style as having high concern for others and low concern for self. If further describe, this style is used when there is a situation where one party technically knows that the other party is more reasonable and fair even though they have an interest in some other solution. Therefore, they accept and incorporate the desires of the other party. It can be said that this style is used when one party has more experience, power and good reputation than the other party.

4.3 FORCING STYLE

According to Chou and Yeh (2007), this style determines the high concern for self and low concern for others. This can be often seen within the construction industry due to the desire of exhibiting power over the others. If the intention of using this style is merely showing the power, dominance and aggression, it will not effectively manage the conflict situation. Instead, it will destroy some important professional relationships between construction stakeholders. Fisher (2000) described that this style can be used with the means of socially accepted mechanisms such as majority vote, authority of the leader or determination of judge whereas it can be also used with the aggressive mechanisms such as secret strategies or threats. However, there are conflict situations in which there is a need of using this

style such as labour handling, handling strikes of staff and managing construction teams due to the fact that people obey the instructions rather than consider about requests.

4.4 AVOIDING STYLE

Chou and Yeh (2007) identified this style as having low concern for both self and others. This is also called withdrawal or denial style. This can be a win-win approach only if used for correct conflict situations but it is very important to notice that avoiding a conflict often leads to the development of that particular conflict into a dispute where dispute resolution is required. The consequences will be unnecessary cost and wastage of time by having expensive alternative dispute resolution techniques. According to Fisher (2000), this style is a win-win approach where the conflicting parties see the situation as we (both parties) against the conflict rather than being against each other. This style can be often used where there are interpersonal conflicts which do not directly related to the construction project.

4.5 COMPROMISING STYLE

Above mention styles are the basic conflict management styles in dual concern theory. However, authors recently introduced another style called compromising style. Cheung and Chuah (1999) identified this style as a procedure where both conflicting parties agree on acceptable solutions in which they have some degree of satisfaction. In addition, this style relates to the give and take attitude. The difference between compromising style and obliging style according to Cheung and Chuah (1999) is that the conflicting parties go for the simplest compromise in the obliging style whereas in compromising style there is a deep consideration about the concessions. Furthermore, Friedman *et al.* (2000) stated that this style describes the moderate concern for self and other.

5. RESEARCH METHOD

The approach undertaken for this research comprised of two components, a literature review and a data collection from case studies. A comprehensive literature survey was carried out through journals, books, articles, reports, government publications, dissertations, previous research investigations and internet to identify the basic facts and the theories already subjected to discussion about conflict management and Dual Concern Theory. Case study research method was used to conduct an in-depth study about the current status of conflict management in the Construction Industry. Three cases were selected and they were examined by conducting semi-structured face to face interviews with selected parties to identify the weaknesses of prevailing conflict management systems in post contract stage and the applicability of Dual Concern Theory for conflict management. Collected data was analysed using a content analysis.

5.1 PROFILE OF THE CASES

The first selected case study (case study 1) was construction of an administrative complex building which is recently completed successfully. This project was initially planned to do within 24 months but extended up to 35 months due to major variations. The client was one of the ministries of government and the contractual arrangement was with ten specialized contractors and three subcontractors. Therefore, the number of parties involved is very much high when compared to other projects. It was a measure and pay contract which had BOI (Board of Investment) facilities. The proposed construction was a large building which had identical 12 floors, a basement, a ground floor and the upper floor for machinery. Consultant was semi government organization whereas all specialized contractors and subcontractors were private organizations. Overall relationship between client and specialized contractors seemed to be better than the relationship between consultant and contractor and client and consultant.

The second case study (case study 2) is an ongoing road project. Estimated duration for this project is 2 years. The client is a regulatory body of the government and the contractual arrangement of this project is with one main contractor and one subcontractor. It was planned to handover the completed sections as soon as the construction is finished. The measure and pay procurement method is used. Even though it is a government project, BOI facilities are not received. The project carries out of an improvement and rehabilitation of a type B road. Consultancy is done by the project consultancy unit of the client organization whereas both main contractor and sub contractor are private organizations. The relationship between client and contractor seemed to be average due to the supremacy of the client. Since the consultancy is done by the client organization, their relationship tends to be good but strictly official. However, the relationship between consultant and contractor seems to be better when compared to aforementioned two relationships.

Third case study (case study 3) is an ongoing apartment building construction. This project is planned to complete within two years. The client is a private company and the contractual arrangement is with one main contractor and three subcontractors. Currently, the construction is successfully continuing with some minor time extensions. Measure and pay procurement method is used. The proposed apartment building is consisting of 25 floors which have minor differences with each other. Client is providing few major construction materials to the contractor. The overall relationship between client and contractor seems to be official but friendly. The relationship between client and consultant is very friendly and comfortable. However, the relationship between consultant and contractor is strictly official due to the supremacy of the consultant.

6. DATA ANALYSIS

The findings from semi structured interviews with the selected stakeholders of selected case studies are summarized in Table 1. The types of conflicts that can be commonly seen in each case study are listed along with their sources, conflict management style used and the degree to which they were succeeded. According to the table 1, it is identified that disagreement in scope change, cost of variations, delays, sharing the cost of delays, quality issues, progress issues, interim payment issues, conflicts between labourers, conflicts between staff members and documentation errors are the most common conflict types that can be seen in the construction industry. However, their sources can be different from one project to another. It can be seen that all three projects have used dual concern theory for conflict management even though they are not aware of doing so. Based on the facts that collected from the case studies, it was identified that majority of professionals in the construction industry are not aware about dual concern theory but they use it in conflict management. The problem is that majority of the construction industry are unaware of using the correct conflict management style in correct conflict situation. One professional from case study 1 (Respondent 1) said that *“even though we know that we have to manage a particular conflict, most of the time we are not sure what should be the correct conflict management style which can be used. Therefore, we often go for negotiation. But there were several times we could not manage the conflict properly by negotiating”*. Another professional said *“I think problem solving by negotiating is not the only technique that we can use to manage a conflict situation but it is the only technique we practically use in the project because we are not sure when we can use the other styles. Only problem solving style is used in our project”*.

Table 1 consists of the average ranking given by selected professionals to the selected conflict management style used to manage each conflict. According to them, the degree of successful management of the conflict is ranged from 1 (very low) to 5 (very high). It can be seen that almost all the conflicts mentioned in the table 1 are successfully solved but according to the opinion of the interviewed professionals, even though the conflict is well managed, it rarely provides satisfaction to all conflicting parties. Therefore, frustration and not willing to work can be often seen in the professionals and other parties. All professionals agreed that the best way of managing the conflicts is using the management styles in dual concern theory. Therefore, there is no doubt that the problem of escalating conflicts is due to the weaknesses of the theory. The problem lies with the usage of correct conflict management style in correct conflicting situation.

According to Table 1, it can be seen that all 3 case studies have common conflicts such as interim payment issues, progress issues, conflicts between labourers and conflicts between staff members. Furthermore, Table 1 clearly demonstrates that the aforementioned common conflicts were often managed using the same conflict management style. However, in several situations it was different from one case to another. According to the findings, the ultimate degree of succession was occasionally different even though the same conflict management style was used. For example, both case study 1 and case study 2 have used problem solving style for managing the conflicts between labourers. But, case study 1 has succeeded more than the case study 2. In addition, case study 1 and case study 3 have used avoiding style for managing conflicts between staff members but case study 3 succeeded more than case study 2. Therefore, it can be assumed that, even though a particular conflict management style is used for a particular conflict, the degree of effective management of the aforementioned conflict can be changed from one project to another. An interviewee of case study 1 (Respondent 2) stated that *“I can't say that a particular style is the best management style for a particular conflict because it can change according to the attitudes of people who related to the conflict as well as the nature of project”*. Similarly, another interviewee from case study 3 (Respondent 3) pointed out that *“I'm sure we can't label the correct management style for each and every conflict because there is no such correct one”*. Therefore, it can be concluded that the change in degree of success can be happened due to the attitudes, interests, education status, needs and nature of the professionals. In addition, it has an effect from the working environment and the nature of source by which the conflict is created.

According to table 1, it can be seen that using different styles for a particular conflict will change the degree of successful management. For example, case study 2 used obliging style to manage the interim payment issues whereas case study 2 used compromising style and case study 3 used forcing style. However, the Table 1 demonstrates that obliging style has low degree of succession while compromising style has very high degree. An interviewee from case study 2 (Respondent 4) stated that *“sometimes we can define a particular conflict management style as the best for a particular conflict due to its nature. For example, interim payment issues are common in every construction project. The only way of managing it is compromising. We neither can force the other party to accept our interests nor accept what other party say by keeping away our own objectives. It is obvious that we can't avoid the conflict because it's greatly related to the construction. I don't think we can use problem solving style because this conflict can never manage by giving full satisfaction to both parties. It's the nature of this conflict. So, the only way of managing it is by using compromising style”*. Therefore, it can be assumed that even though the nature of projects and the professionals are different from one case to another, a particular conflict management style can be the perfect style for a particular conflict due to its unique nature.

Respondent 1 mentioned that once they have to go for alternative dispute resolution due to errors in documentation. He said that *“once we had to deal with a problem regarding an error in the BOQ. What we did was having number of meetings to discuss the matter but it never solved because neither of parties were ready to compromise or give chance to the other party. Both parties were in the opinion that they are correct. There were strong arguments between several professionals and the good relationship between them was broken. Therefore we had to go for a mediation process because both parties didn't want an expensive and time consuming arbitration process. However, it was resolved but it took so much time and money and remained broken professional relationships and frustration”*. According to respondent 1, the dispute derives from an unmanaged conflict between the Quantity Surveyors of both parties. They have continuously used problem solving style to manage the conflict but it wasn't effectively managed. Because of that they have to go for a dispute resolution method. According to respondent 1, the conflict was not effectively managed because they have selected the wrong conflict management style. He further stated that ultimately both parties realized that if they used compromising style, they would have effectively manage the conflict without letting it to escalate and become an expensive dispute because the ultimate solution they got from the dispute resolution is compromising with other party. This will clearly shows that using correct management style is the key for effective conflict management.

From the opinions taken from the professionals, it is highlighted that majority of them are interested in problem solving style and compromising style. An interviewee from case study 2 (respondent 4) mentioned that *“we always go for problem solving style or compromising style because they make us discuss about the conflict in a friendly manner. We don't want to destroy the good relationship we have with all other parties because in my opinion, good and strong professional relationships are the key to project success”*. Several interviewees from case study 1 said that *“negotiation is the only method we practically use in our project. Everyone accepts this method”*. According to them, compromising and problem solving styles can be applied in most situations. An interviewee from case study 3 (respondent 5) stated that *“I think there are situations in which we have to let other party win because sometimes our desires will not tally with the objectives of the project. When the conflict arises and when we hear the other party's reasoning, automatically we come to know that they are more reasonable. Then what we should do is keep our desires aside and make their desires ours. But when it comes to conflicts regarding labour handling and conflicts related to labour, the best way of managing them is using forcing style”*. According to him, both forcing and obliging styles should be used when any party realizes that the other party is more reasonable and fair.

Avoiding style is the best for personal conflicts if they are not directly related to the success of the project. Most of the interviewees said that *“we never care about the personal conflicts between employees as long as they become a problem to the project. Most situations, they are not becoming problems to the project”*. Many professionals agreed that using problem solving style for personal conflicts which are not affecting the project success will only escalate the conflict and make a subsequent effect to the project. This will happen when a third party is trying to involve in the conflict.

Few professionals stated that forcing is the best style because it made the conflict managed automatically and quickly. But majority of professionals determined that forcing is the last style that should be used for a conflict situation because it makes the related parties frustrated. But they agreed that it can be useful in some situations rather than any other style. All professionals declared that it is important to establish a proper method for conflict management in every construction project and to pay a special attention for conflict management. Respondent 1 said that *“we all need a proper education about conflict management and every project should have more consideration about conflict management because it can even terminate a contract”*. The proposal of the interviewees is to use all the styles in dual concern theory appropriately according to the conflict situation. They further stated that it is very useful if professionals are given a proper knowledge about conflict management.

From the evaluation of case studies, it can be identified that the magnitude of project is not proportionate to the amount of conflicts. According to table 1, case study 1 is having more conflicts even though case study 3 is the biggest project. Moreover, it can be concluded that the amount of conflicts have no relationship with the magnitude of the construction project. However, it has a relationship with duration of the project. Respondent 3 stated that *“when the duration of project is high, the tendency of having conflicts is high due to more and more interaction of parties and urge to see an end of their monotony life. Receiving time extension can be considered as asking for more and more conflicts”*. Similarly, the project type has a relationship to having conflicts. According to table 1, building projects have more tendency to generate conflicts rather than civil projects due to their complexity. However, when compare two building types (case study 1 and 3), it can be revealed that there is no relationship between building type and conflicts. Nevertheless, the complexity in construction of buildings can cause more conflicts. Furthermore, amount of conflicts is proportionate to the number of parties involved. It can be clearly seen in table 1. Case study 1 has more conflicts due to the presence of number of specialized contractors and subcontractors. Moreover, the most commonly used styles were problem solving and compromising even though they were not appropriate insome situations.

It is obvious that proper conflict management is a sustainable construction practice. The word sustainability can be described as a situation where it meets the need of the present without limiting or eliminating the ability of future generation to meet their needs. Normally, stakeholders (professionals) of the industry are human resources and frustration and poor coordination due to conflicts will diminish their willingness to work in the future. So, it can be said that conflicts will limit the ability of

future generation to meet their need of having the service of professionals. Therefore, managing conflicts will preserve the human resource to the future. Apart from that, by not having a conflicting environment will lead to proper documentation and record keeping and it will be a preservation of knowledge for future generation while using it in the present.

Table 1: Conflict Management in Selected Projects

Case Study	Conflicts Occurred	Sources of Conflicts	Conflict Management Style Used	Degree of Success							
				1	2	3	4	5			
1	<ul style="list-style-type: none"> Disagreement in scope change Cost of variations Delays Sharing the cost of delays Delayed claims Cash flow discrepancies Quality issues Progress issues Interim payment issues Conflicts between labourers Conflicts between staff members Documentation errors 	<ul style="list-style-type: none"> Confusing requirements of owner Design errors Variations, Adverse weather Lack of pre-determined conditions Excessive work load, negligence Poor documentation Not following the specifications Labour idling, poor coordination Poor data recording Poor communication and differences in attitudes and mentality Lack of information, negligence, human errors 	<ul style="list-style-type: none"> Forcing Compromising Problem solving Compromising Compromising Problem solving Forcing Compromising Obliging Problem solving Avoiding Problem solving 				✓	✓	✓	✓	✓
2	<ul style="list-style-type: none"> Cost of variations Conflicts between labourers Interim payment issues Progress issues Quality issues 	<ul style="list-style-type: none"> Lack of information during design stage Poor communication and differences in attitudes and mentality Poor coordination, adverse weather Negligence of the contractor, Not following the specifications 	<ul style="list-style-type: none"> Problem solving Problem solving Compromising Compromising Forcing 			✓		✓	✓	✓	
3	<ul style="list-style-type: none"> Interim payment issues Progress issues Conflicts between labourers Conflicts between staff members 	<ul style="list-style-type: none"> Supremacy of the consultant Ineffective labour management Poor communication and differences in attitudes and mentality 	<ul style="list-style-type: none"> Forcing Problem solving Avoiding Avoiding 			✓	✓	✓	✓		

7. DISCUSSION

Acharya *et al.* (2006) stated that conflicts are inevitable in construction industry. Since the results of conflicts cannot be predetermined, there is a tendency of escalating the conflict and leads to non-productive results as well as beneficially results (Popovic and Hocenski, 2009). Similarly, findings of case studies confirm that conflicts are inevitable and they should be managed in such a way that they do not escalate in destructive manner. According to the case study findings, it is important to consider about destructive conflicts rather than productive conflicts since they disturb the successful completion of the construction project. According to the literature review it is clear that dual concern theory is the most common conflict management style used in both local and international construction industry. In addition, the literature review discusses about the conflict management styles in dual concern theory in a descriptive manner providing examples for how they have been used to manage the conflicts. However, there is no clear explanation about identifying the most appropriate conflict management style for a particular conflict situation. Similarly, the findings from case studies clearly show that construction professionals are not aware of the right conflict management style for the right situation and this is the key problem to enhance the conflicts in most of the projects.

Cheung and Chuah (1999) described the problem solving style as the conflict management style which provides the best solution to the conflict even though there is a need of modifying or discarding the original views of one or both parties. Therefore, this style can be identified as a mean of problem solving through collaboration. Chou and Yeh (2007) explained the compromising style as having concern about matching others' concessions, making conditional promises and threats. Therefore compromising style provides partial satisfaction to both parties in equal measure. Similarly, the findings from the case studies prove that problem solving and compromising styles are more preferable because they are done in the form of negotiating which is the most famous method in any country. Even though there is no enough literature which confirms that problem solving and compromising are the best methods that can be used for conflict management the findings from case studies reveal that majority of construction professionals think they are the best methods in practical context. Fisher (2000) stated that forcing style is a win-lose approach where one party receives exactly what they want while other party is forced to accept the solution willingly or unwillingly by using the power. However, case study findings identify forcing style as a prestigious technique to use power over the subordinates. Further, findings reveal that forcing style cannot be used effectively without making one party frustrated thus it decreases the productivity of the employees.

When consider about the explanation of Chou and Yeh (2007), obliging style is a lose-win approach because only one party is able to have what was intended. The other party only gets an undesired but more reasonable solution to the conflict situation. However, this style can be identified as a conflict management style where all conflicting parties being flexible about having a solution. The case study findings provide a slightly different identification to the obliging style. The findings agree with the literature but it conveys a broader explanation. According to the findings not only obliging style is used when one party comes to know that the other party is more reasonable, but it is also used when one party has more control over the project than the other party (ex: consultant and contractor) and when one party depends on the other party (ex: contractor and suppliers).According to Cheung and Chuah (1999), conflicting parties can use avoiding style if they wish to ignore the actual or potential conflict. However, case study findings determine that avoiding style is better for interpersonal conflicts which are not relevant to the construction project. Case study findings also reveal that if the particular interpersonal conflict creates any kind of disturbance to the project, it should be managed by using another style, most probably the problem solving style.

There is scarcity of literature that proves construction industry is now recognized as an industry which consists of sustainability in professional construction practice. But the findings of case studies clearly show that in order to label a construction project as sustainable, it should have sustainability in every manner. Therefore, having sustainable construction practice such as preserving professional service for future use is now become a significant requirement. According to the findings, the basic disturbance for preserving professionals for future while obtaining their maximum service in the present is making

them unwilling to work. The cause for this is having conflicts. Therefore, it is important to manage conflicts effectively in order to gain sustainable construction practices to every project.

8. CONCLUSIONS

Conflicts are inevitable due to the complexity and the multi disciplinary involvement in the construction project. They cannot be eliminated from construction projects. Therefore, the only thing that can be done is managing conflict without allowing them to escalate and create destructive consequences. The severe stage of a conflict is a dispute which obviously becomes a disturbance to the project success. Having conflicts will destroy the good professional relationships and waste time, money and energy. Conflicts can be managed effectively by using the conflict management styles in dual concern theory. The foundation of the theory is having concern about self and other. There are different conflict management styles according to the degree of concern having towards self and others. Majority of the construction projects follow this theory without knowing the exact definition of the theory. Therefore, sometimes it will not be able to use it effectively. Problem solving style and compromising style are the most common conflict management styles that are using all over the world. But they are not matching for every conflict situation. Therefore, the style should be selected appropriately according to the situation. Conflict management leads the project into sustainable construction practise by avoiding the frustration of stakeholders. It enables to preserve human resource for the future use. Therefore, conflict management is having a vital importance in the construction industry.

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