

An Investigation into Interpersonal Conflicts in Post-Contract Stage of Sri Lankan Construction Projects

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Abstract

Construction project organisational context follows a temporary multi organisational approach with number of different parties involved, interacted and depended on each other. Due to such complex nature, interpersonal conflicts are inevitable in construction projects. These interpersonal conflicts affect project outcomes both positively and negatively. Hence, the aim of this research is to investigate the interpersonal conflicts in post-contract stage of Sri Lankan construction projects. This research aim was approached through a quantitative survey research design by using a structured questionnaire as the data collection technique. Questionnaire consisted of questions to analyse data using Analytic Hierarchy Process and a Likert scale to analyse data using the 'mode' value of the responses. Data were collected from a purposive sample of 30 professionals in Sri Lankan construction industry. Findings indicate that task conflicts are the most experienced type of conflicts than process and relationship conflicts in post-contract stage of Sri Lankan construction projects. 'Conflicts on resource distribution' is the most experienced sub type of interpersonal conflicts. The most experienced positive influences of interpersonal conflicts consist of: 'force to take better managerial decisions', 'introduction of creative solutions to problems' and, 'increase of the ability to give and receive constructive feedback'. The most experienced negative influence of conflicts includes its contribution to delays in projects. These findings are important for construction professionals for better management of human resources in construction projects.

Keywords

Construction Projects, Process Conflicts, Relationship Conflicts, Sri Lanka, Task Conflicts

1. Introduction

Personal relationships are crucial in achieving goals in organisations. Complexity of personnel, variety of goals, uncertainty of activities and intensive of capital are certain unique characteristics that set up a path to arise interpersonal conflicts in construction project organisations (Zhang and Fan, 2013). According to Leung *et al.* (2005), conflicts occur during construction stage due to new entrance and change of project participants. Construction project teams consists of different professionals and number of different parties

such as contractors, suppliers, engineers, architects and quantity surveyors. Therefore, interpersonal conflicts in construction project teams are inevitable (Zhang and Huo, 2015). In generic terms, interpersonal conflicts are identified as a dynamic process that occurs between parties, who are in interdependent relationships, when they experience negative emotions over disagreements and obstructions in realising the set goals (Barki and Hartwick, 2004). However, Interpersonal conflicts are considered as a crucial factor for project performance (Zhang and Huo, 2015). Project based management is associated with complex situations. In a project, various parties operate simultaneously and collaborate within a network. Thus, relationship between those parties create fundamental influence in successful project (Kärnä and Junnonen, 2016). Managers have to deal with conflicts between their subordinates nearly 30-42 percent of their managing time (Brockman, 2014). Therefore, managers should identify the importance of interpersonal conflicts in construction projects.

Several researches have been carried out in the area of interpersonal conflicts in construction industry. Such studies have identified key conflict types and how those conflicts affect to the performance of construction projects (see Brockman, 2014; Zhang and Huo, 2015). It is identified that patterns of conflicts are changing time to time and necessary to examine frequently (Jehn and Mannix, 2001). However, most of the conflict studies have focused on individual level than group level (Way *et al.*, 2016). Similarly, Sri Lankan researches also have focused on conflicts in construction context. Many such researches have focused on general construction conflicts, which are occurred in construction industry (see Nissanka, 2017; Rameezdeen and Gunarathna, 2003). General construction conflicts can arise due to internal, external, social, economic and political factors (Moura and Teixeira, 2010). However, apart from general conflicts, interpersonal conflicts also generate during the construction process in Sri Lankan construction industry (see Senaratne and Udawatta, 2013). Further, relationship conflicts, which are a type of interpersonal conflicts include disagreements on values, norms, or personal tastes of group members (Medina *et al.*, 2005). These disagreements on cultural aspects urge the necessity of carrying out localised conflict studies to Sri Lankan context. This is because cultural specificity is identified across national boundaries (Kumaraswamy *et al.*, 2002). Considering the facts cited above, this research aims to investigate the interpersonal conflicts in post-contract stage of Sri Lankan construction projects. This aim carries the objectives of prioritising different types of interpersonal conflicts and identifying the positive and negative influences of such interpersonal conflicts.

2. Literature Review

2.1 Types of Interpersonal Conflicts

In generic organisational context, conflicts arise when personnel in the organisation compete for scarce resources (Henry, 2008). Thompson (1990) indicates individual characteristics such as; personality, anger, stress have an effect on conflicts. In addition, interpersonal factors such as perceptual interface, communication, behaviour, and structure are guided to generate conflicts (Wall and Callister, 1995). Interpersonal conflicts among any group members can be categorised under three main types of conflicts such as; relationship conflict, task conflict and process conflict (Jehn and Mannix, 2001) described as follows:

Relationship conflict - Relationship conflicts happen due to disagreement among group members about personal issues (Wit *et al.*, 2012). Personal issues such as dislike other group members, feeling tension and frustration consist of relationship conflicts (Jehn and Mannix, 2001). According to Peterson and Behfar (2003), relationship conflicts negatively affect to group performance. When there is a conflict situation among group members, they mostly focus on each other's requirement rather than the organisational goals. Thus, it results in mutual hostility among group members and cause conflict escalation. Disagreement may raise due to interpersonal differences and it includes conflicts that are centred on personality differences (Senaratne and Udawatta, 2013). Many researchers have identified

interrelations among relationship, task and process conflicts. According to them, task and process conflicts could result in relationship conflicts (Leung et al., 2005; Passos and Caetano, 2005).

Task conflict - Task conflict can be defined as disagreements among group members about task being performed during organisational operations (Wit *et al.*, 2012). It relates to conflict about different opinion and different ideas about the same task. According to Senaratne and Udawatta (2013), the most understandable task conflict in construction industry is related with time, cost and quality of projects. Resource allocation can be identified as another source of task conflicts because, competition for resources such as personnel, facilities, plant and equipment, materials may escalate disagreement between group members (Wall and Callister, 1995). Conflicts on interpretation of facts and disagreement about decisions too resemble task conflict (Passos and Caetano, 2005). Generally, better decisions will be made about some problems aftermath of a task conflict, giving a positive effect on organisational performance (Simons and Peterson, 2000).

Process conflict - This type is about how task accomplishment should proceed in the working group and which member is responsible for which activity and how responsibilities should be delegated in organisations. When group members are unhappy about responsibilities, which are divided among group members will give rise to process conflict (Jehn, 1997). Process conflicts represent coordination activities within group such as decisions about logistical accomplishment of tasks and decisions about member coordination to succeed tasks (Behfar *et al.*, 2011). Jackson *et al.* (2002) indicate process conflicts as any conflict over time scheduling and meetings, work approaches/methods or workload distribution among members.

Based on the above comprehensive literature review, main three (03) types of interpersonal conflicts (relationship, task and process) and sub types of main interpersonal conflicts have been identified. Following such analysis, most experienced interpersonal conflict type selection hierarchy for construction industry was developed as in Figure 1. Given the ambiguity surrounding the terminologies used by various authors and experts, the best judgment has been made to identify the sub types of main interpersonal conflicts.

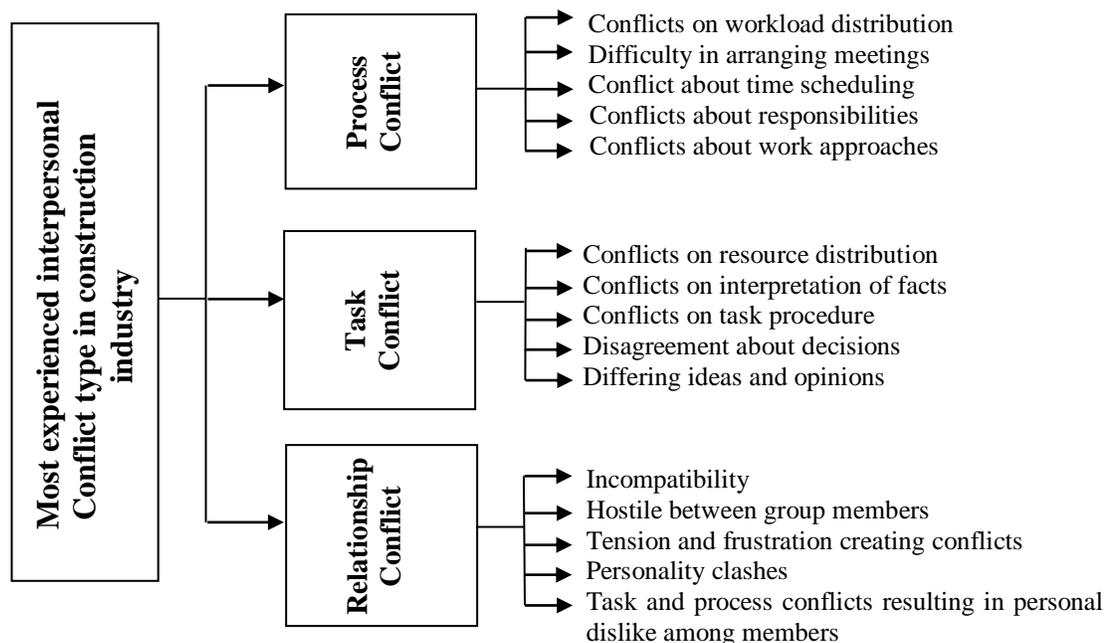


Figure 1: Most Experienced Interpersonal Conflict Type Selection Hierarchy for Construction Industry

2.2 Positive effects of interpersonal conflict

According to Lee (2011), traditional view of conflict is destructive and always gaining negative impact leading to loss of performance. However, many researchers have emphasized benefits of conflicts. During conflict situations, group members become more creative to solve conflicts (Levine *et al.*, 1993). Conflicts boost the consideration of new ideas and approaches thus, can generate innovative ideas, which bring in effective changes to activities contributing to organisational success (Baron, 1991). Carnevale and Probst (1998) indicate that conflicts raising environment become more useful than no conflict situations to increase the flexibility of the participant. This is because, such situations increase productive discussion about problems, negotiations, cognitive capacity and relationship strength. Baron (1991) mentions about increased loyalty and cohesiveness among group members, who have confronted with serious problems. Loyalty is a crucial factor in maintaining peaceful environment within an organisation. Therefore, such advantages can have positive effects on performance of group members.

2.3 Negative effects of interpersonal conflict

Every person has their own interests. Therefore, different individuals likely to present interpersonal incompatibilities. This could lead to negative emotions such as anger, anxiety, mistrust and all other bad feelings (Jehn, 1997). These negative emotions are commonly associated with relationship conflicts, which affect negatively to group performance (Jehn and Mannix, 2001). Baron (1991) points out that interpersonal conflicts interfere with communication, which lead to poor cooperation or coordination, diversion of energies from major goals, lead groups to stereotype each other, increase in politics and reduces the organisation's capacity to compete with others. Due to interpersonal conflict, communication flow will become complex by resulting mistrust, misunderstanding and anxiety. Simons and Peterson (2000) identify that relationship conflict negatively affects group decisions in three ways: restriction of information processing within the group due to waste of time to focus on problems; limit of group member's cognitive function through increased stress and anxiety levels, and encourage of evil attribution for other members. Thus, mutual hostility can be generated among members due to these reasons.

3. Research Methodology

This research basically attempts to answer two Research Questions (RQ) as RQ1: What are the prioritised different types of interpersonal conflicts in post-contract stage of Sri Lankan construction projects and RQ2: What are the positive and negative influences of such interpersonal conflicts. According to Yin (2009), 'what' type of research questions support survey research designs. Accordingly, this research adapted quantitative survey research design by using a structured questionnaire as the data collection technique. Questionnaire consisted of two different sections to collect data and analyse answers for RQs. Section I was designed to answer RQ1 through Analytic Hierarchy Process (AHP) using 9 to 1/9 scale and Section II was designed to answer RQ2 through a 1 to 5 Likert scale [Never (1), Rarely (2), Sometimes (3), Most of the time (4), Always (5)] to analyse data using the 'mode' value of the responses. Data were gathered from professionals (Quantity Surveyors, Project Managers, Architects and Civil Engineers) from the construction industry in Sri Lanka, including professionals working for consultants or contractors in projects. The questionnaires were distributed among 39 professionals, adopting purposive sampling and only 30 responded with a response rate of 77%. The main three steps of (1) Pair-wise comparison, (2) Normalise the comparison and (3) Consistency calculation were used for AHP approach (Saaty, 2008). RQ1 was structured as a hierarchy as indicated in Figure 1 to support AHP process. AHP problem hierarchy was constructed so as to priorities and convert individual comparative judgments into ratio scale measurements. Top level of the hierarchy included main types of interpersonal conflicts while, lower level consisted with sub types of interpersonal conflicts.

4. Data Analysis and Research Findings

4.1 RQ1: Prioritised Different Types of Interpersonal Conflicts in Post-Contract stage of Sri Lankan Construction Projects

Initially, the main three types of interpersonal conflicts (relationship-task-process) were prioritised following the three steps of pair-wise comparison, normalisation of comparison and consistency calculation of AHP. The geometric mean of the responses was considered to prepare the pair-wise comparison matrix as shown in Table 1. Comparisons were assessed with the number of scale, which indicated how much one conflict type was more important than the other type of conflict according to the respondent's opinion.

Table 1: Square Matrix of the Pair-Wise Comparison for Main Conflict Types

Main Interpersonal Conflict Type	Relationship	Task	Process
Relationship	1.000	0.370	0.529
Task	2.702	1.000	3.258
Process	1.891	0.307	1.000
Sum	5.593	1.677	4.787

Next, the normalised comparison for main conflict types was done following the calculation of relative weight of each conflict type as presented in Table 2. These relative weights can be used to prioritise the conflict types. According to the normalised comparison for main interpersonal conflicts, task conflicts acquired the highest relative weight of 0.587, proving the task conflicts being the most common interpersonal conflict type in the construction industry. Process conflicts acquired the second highest relative weight of 0.243 and relationship conflict was the third with a relative weight 0.170. According to the normalised comparison, task conflicts are approximately 2 times more experienced than process conflicts and approximately 3 times more experienced than the relationship conflicts. This indicates that task conflicts generate significant impact to the post-contract stage of construction projects in Sri Lanka.

Table 2: Normalized comparison for main conflict types

Main Interpersonal Conflict Type	Relationship	Task	Process	Sum	Relative Weight
Relationship	0.179	0.221	0.110	0.510	0.170
Task	0.483	0.596	0.681	1.760	0.587
Process	0.338	0.183	0.209	0.730	0.243

Sometimes responses data may not be reliable due to inconsistent responses in the questionnaire survey. Therefore, data consistency should be assessed to establish validity of the research findings. Consistency Ratio (CR) was used as a reference index to measure consistency of data. According to (Saary, 1994) CR being 0.10 or below is considered as acceptable. Since CR for prioritised main interpersonal conflicts was 0.066, which was below 0.10, collected data were considered having significant level of consistency and the outcome of the calculations was considered having the validity required. A similar exercise was applied towards calculating the relative weight of sub types of interpersonal conflicts. The prioritised interpersonal conflict types are summarised in Table 3. According to Table 3, each sub type of interpersonal conflict has been ranked following the overall weight calculations.

Results have indicated that task conflicts as the most common type of interpersonal conflicts in the Sri Lankan construction industry. Overall ranking of sub types of interpersonal conflicts indicated that 'conflicts on resource distribution' has obtained the highest weightage in this analysis. Depending on the

project complexity and scarcity, resource distribution may be difficult in practice. Yet, proper resource allocation would help to avoid unnecessary conflicts. Second most experienced sub type of conflict was ‘conflicts on task procedure’. Those conflicts arise with the proceedings of different tasks in construction projects. Third most experienced sub type of conflict was ‘differing ideas and opinions’. Construction is a multi organisational process. Therefore, various parties involve to the proceedings, who carry differing ideas and opinions, which give rise to conflicts. Therefore, task conflicts have been most of the time experienced by professionals in construction projects. Sub types of relationship conflicts such as ‘incompatibility’, ‘personality clashes’, and ‘hostile between group members’ received the least priority among overall ranking.

Table 3: Prioritised Interpersonal Conflict Types

Rank	Interpersonal Conflict Type	Relative Weight	Overall Weight	Overall Rank
1	Task conflicts	0.587		
1.1	Conflicts on resource distribution	0.329	0.193	1
1.2	Conflicts on task procedure	0.209	0.123	2
1.3	Differing ideas and opinions	0.196	0.115	3
1.4	Disagreement about decisions	0.138	0.081	4
1.5	Conflicts on interpretation of facts	0.128	0.075	5
2	Process conflicts	0.243		
2.1	Conflict about work approaches	0.300	0.073	6
2.2	Conflict about responsibilities	0.248	0.060	8
2.3	Conflict on workload distribution	0.201	0.049	9
2.4	Conflict about time scheduling	0.143	0.035	10
2.5	Difficulty in arranging meetings	0.108	0.026	13
3	Relationship conflicts	0.170		
3.1	Task and process conflicts resulting in personal dislike among members	0.417	0.071	7
3.2	Tension and frustration creating conflicts	0.207	0.035	10
3.3	Hostile between group members	0.158	0.027	12
3.4	Personality clashes	0.129	0.022	14
3.5	Incompatibility	0.089	0.015	15

4.2 RQ2: Positive and Negative Influences of Interpersonal Conflicts

9 positive influences and 12 negative influences of interpersonal conflicts, which were identified from literature review were ranked based on a 1 to 5 Likert scale [Never (1), Rarely (2), Sometimes (3), Most of the time (4), Always (5)] by the professionals in construction industry in Sri Lanka. The mode values of the respondents’ ranking are indicated in Table 4.

Positive influence of interpersonal conflicts - The most experienced positive influence was that conflicts ‘force to take better managerial decisions’ with a mode value of 4 (Most of the time) as indicated by 73% of respondents. This demonstrated that managerial decisions were affected in a positive manner by conflicts, where outcome of better managerial decisions could help to improve the project performance. Further, 67% of the respondents indicated that conflicts most of the times (mode value of 4) ‘introduce creative solutions to problems’. Accordingly, professionals established that creativity comes with chaos and that such a creativity could drive successful completion of the work. In addition, more

than 50% of the respondents pointed out that conflicts most of the times (mode value of 4) ‘increase the ability to give and receive constructive feedback’ and ‘increase understanding among group members’. 63% of the respondents indicated that conflicts sometimes (mode value of 3) ‘improve motivation’ and ‘improve self-esteem’. However, there was no strong consensus among the respondents whether conflicts positively influence on building trust. 10% of respondents stated that it did not happen in the industry, while 33% stated that they had a rare experience on interpersonal conflicts building trust among group members.

Table 4: Mode Values of Positive and Negative Influences of Interpersonal Conflicts

Positive influences of interpersonal conflicts	Mode	%	Negative influences of interpersonal conflicts	Mode	%
1. Provide creative solutions to problems	4	67%	1. Contribute to delays in projects	4	60%
2. Force to take better managerial decisions	4	73%	2. Build up frustration, resentment, anxiety and tension	3	50%
3. Help to re-adjust relationships of parties concerned	3	50%	3. Establishment of supportive relationship difficulties	3	50%
4. Increase the ability to give and receive constructive feedback	4	53%	4. Make barriers in communication	3	57%
5. Improve self-esteem	3	63%	5. Reduce the individual productivity level	3	67%
6. Increase understanding among group members	4	50%	6. Divert energies from major goal to others	3	63%
7. Improve motivation	3	63%	7. Create clashes between members	3	57%
8. Contribute to a more interesting work environment	3	50%	8. Create incompatibilities among group members to accomplish tasks	3	67%
9. Build trust	2	33%	9. Create lack of trust	3	50%
			10. Make unpleasant working conditions	3	63%
			11. Create misunderstanding about tasks	3	60%
			12. Reduce the quality of production	3	57%

Negative impact of interpersonal conflicts - Research findings unveiled that conflicts ‘contributing to delays in projects’ as the most experienced negative influence with a mode value of 4 (Most of the time) as indicated by 60% of the respondents. All other influences were ranked as sometimes (mode value of 3) influencing negatively. However, more than 60% of the respondents indicated that they sometimes experienced conflicts ‘reducing the individual productivity level’, ‘diverting energies from major goal to others’, ‘creating incompatibilities among group members to accomplish tasks’, ‘making unpleasant working conditions’ and ‘creating misunderstanding about tasks’.

5. Conclusion

This research intended to answer the two research questions; RQ1: What are the prioritised different types of interpersonal conflicts in post-contract stage of Sri Lankan construction projects and RQ2: What are the positive and negative influences of such interpersonal conflicts. In answering the RQ1, AHP calculations have identified that task conflicts are the most experienced type of main interpersonal conflicts in post-contract stage of the construction projects in Sri Lanka, compared to process and relationship types of conflicts. Normalized AHP comparison indicates that task conflicts are approximately 3 times more experienced than relationship conflicts and process conflicts are approximately 2 times more experienced than the relationship conflicts. Further, sub types of task

conflicts are having the highest priority among different sub types of main interpersonal conflicts. Accordingly, 'conflicts on resource distribution' is the highest experienced sub type of main interpersonal conflicts. In addition, 'conflicts on task procedure', 'differing ideas and opinions', 'disagreement about decisions' and 'conflicts on interpretation of facts' received higher priorities among different sub types of main interpersonal conflicts.

In answering RQ2, research findings indicate some positive influences of interpersonal conflicts in construction projects. Construction professionals declared conflicts 'force to take better managerial decisions' as the most experienced positive influence. In addition, 'introduction of creative solutions to problems' 'increase of the ability to give and receive constructive feedback', 'increase of understanding among group members', 'improved motivation' and 'improved self-esteem' are the other top ranked positive influences. Interpersonal conflicts generate not only positive influences, but also negative influences to a construction project. Research findings indicate that most experienced negative influence of conflicts include its contribution to delays in projects. In addition, 'reducing the individual productivity level', 'diversion of energies from major goal to others', 'creating incompatibilities among group members to accomplish tasks', 'making unpleasant working conditions' and 'creating misunderstanding about tasks' include other major negative influences.

These findings are useful for construction professionals, who work for post-contract stages of construction projects in Sri Lanka for better understanding of possible interpersonal conflict types in projects to benefit from the positive influences and to avoid or minimise the negative influences consciously. This will lead to a better management of human resources in construction projects. Further research suggestions include studying the interpersonal conflict management techniques in construction industry.

6. References

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