

A REVIEW OF CONFLICT MANAGEMENT TECHNIQUES IN PROJECTS

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Abstract

This paper aims to find the mostly occurring reasons for conflicts in projects and mostly used techniques to resolve the conflicts. It is/was proposed a model of conflict management for projects. Total a hundred five reasons for conflicts in projects are identified from secondary research. From that top-10 reasons for conflicts in projects are founds based on number of references in the literature. They include Shared/Common Resources, Differences in Project Goal/Objective, Cultural Differences, Values Differences, Personality Issues, Differences in Technical Opinions/Approaches, Schedules, Costs, Administrative procedures, and Different Perceptions in the order of preference. Total forty conflict resolution techniques in projects are identified based on through literature review. The most frequently used top -5 conflict resolution techniques in projects in the order of preference are Avoiding/Withdrawal, Compromising, Confronting/Problem Solving, Accommodating and Smoothing.

Keywords: Conflict Management, Conflict Resolution, Projects, Conflict Management Model, Conflict Cycle

1. INTRODUCTION

“Conflict is an unavoidable component of human activity”.
----- Brahnam et al., (2005:p204)

Current day project managers spend minimum of 20% of their time in dealing with conflicts (Davis, 1977; Verma, 1998; Appelbaum *et al.*, 1999; Ohlendorf, 2001; Brahnam *et al.*, 2005; Sutterfield *et al.*, 2007; Thomas, 2009; Aula *et Siira*, 2010). Ma *et al.*, (2008) have done a meta study of five hundred fifty-six journal articles on conflict management which were published between 1997 and 2006 and expressed that conflict management research is concentrating mainly few areas such as role of cultural differences in conflicts, conflict management styles, conflicts at workplace, conflicts and team performance and conflict management practices. According to them, the intellectual structure of conflict management is taking back stage in conflict management research and it was not highlighted much in previous conflict

management literature. Hence, this paper is a contribution in that direction describing a conceptual model of conflict management, conflict lifecycle, conflict management process, different reasons for conflicts in projects, frequently used conflict resolution techniques in projects and implementing the solution in projects. The different reasons for conflicts in projects are identified using the collected literature based on each reason and its frequency of occurrence in gathered literature. Similar technique is used to find the frequently used conflict resolution techniques in projects. These details are tabulated in [Table 1- Table 4]. They are arranged in the decreasing order of occurrence in the literature.

One school of thought is conflicts are not good for projects and another school of thought is conflicts are needed for better relationships and better performance in the projects (Al-Sedairy, 1994; Banner, 1995; Englund *et Bucero*, 2012). According to Lam *et al.*, (2007) *conflict* is a disagreement between different parties over opinions, views and ideas (Davis, 1977; Darling *et Walker*, 2001). Moderate levels of conflict leads to better performance and high levels of conflict reduce the team performance (Leung *et al.*, 2005; Lam *et al.*, 2007). Conflict may be the result of loyalty to something or attachment to something (Banner,

1995). Conflict may be a situation of parties in discrepancies, irreconcilable desires and incompatible wishes, activities, needs or goals (Johnson *et al.*, 1982; Aswathappa, 1996; Gupta, 1997; Jehn *et al.*, 2001; Ohlendorf, 2001; Heldman, 2003; Robbins, 2003; Swanström *et al.*, 2005; Song *et al.*, 2006; Ng *et al.*, 2007; Nair, 2008; Thomas, 2009; Vokić *et al.*, 2009; Aula *et al.*, 2010). According to Barki *et al.* (2001), *conflict* is a phenomenon of experiencing negative emotional reactions in conflicting parties in interfering in pursuing their goals and perceived disagreements (Sutterfield *et al.*, 2007). The symptoms of conflict include jealousy, hostility, enforcing norms, regulations and rules, frustration (Aswathappa, 1996; Gupta, 1997; Robbins, 2003; Swanström *et al.*, 2005) and poor communication (Barki *et al.*, 2001). According to Sutterfield *et al.*, (2007), the three dimensions of an interpersonal conflict include interference, interdependence and disagreement. Current day effective managers do not avoid conflicts but they take it as an opportunity for growth for both individuals and organization (Darling *et al.*, 2001; Englund *et al.*, 2012).

Sometimes relationship conflicts lead to mistrust, dissatisfaction, cynicism, apathy, non-cordial relationships, provoked hostility, anxiety (Nair, 2008) and reduced project performance (Appelbaum *et al.*, 1999). The high level of conflicts also increases the costs and schedules of the project. Properly managed conflicts result into better quality product, better decision making, more innovation and enhanced performance (Brahnam *et al.*, 2005). Constructive conflict management comes along with mutual respect, cooperation and intention to learn from each other. Cross Cultural teams are prone to more conflicts (Brahnam *et al.*, 2005). The seed of conflict is planted when one of the parties feels *disharmony* in projects (Billikopf, 2003). Traditionally, the word 'conflict' has negative connotations (Verma, 1998; Warner, 2000).

Current view of conflict is, conflict is inevitable in projects and organizations (Armstrong, 1984; Aswathappa, 1996; Verma, 1998; Ohlendorf, 2001; Hudson *et al.*, 2005; Ng *et al.*, 2007; Nair, 2008; Ross, 2009; Thomas, 2009; Vokić *et al.*, 2009; Aula *et al.*, 2010). According to Appelbaum *et al.*, (1999), Conflict involves struggle over claims such as resources, opinions, beliefs, status, desires, priorities, preferences and power. Existence of conflict depends on the individual perception. When one party tries to impact the interests, objectives or goals of another party, the conflict exists. In another research study it was found that there is a direct relationship between education, perception and conflict (Appelbaum *et al.*, 1999).

Initial five techniques for conflict resolution were given by Lippitt, G.L in 1982 published in *Training and Development Journal*. Verma (1998) mentioned the sixth technique for conflict resolution known as 'collaborating'.

Other researchers have used different terminology for conflict resolution techniques. Conflicts can be constructive or destructive (Holahan and Mooney, 2004; Mosaic, 2012). It will be decided by the type of conflict (Pierce *et al.*, 2007). Usually conflicts in projects can be categorized as *cognitive conflicts* and *affective conflicts* (Appelbaum *et al.*, 1999; Pierce *et al.*, 2007). *Cognitive conflicts* deal with the differences in decisions and they are task-oriented (Pierce *et al.*, 2007). They are also known as *substantive conflicts* (Nair, 2008). Where as, *affective conflicts* deal with differences in individuals and personalities and not on the issue (Pierce *et al.*, 2007; Nair, 2008; Aula *et al.*, 2010). Robbins (1978) has categorized conflicts as *functional conflicts* and *dysfunctional conflicts* (Aswathappa, 1996). *Functional conflicts* are the constructive form of conflicts and *dysfunctional conflicts* are the destructive to the team, organization or project.

Armstrong (1984) *et al.* Prasad (1994) have categorized conflicts as *vertical conflicts*, which occur between superior and sub-ordinate, and *horizontal conflicts*, which occur between team members at the same level of hierarchy. If you observe keenly the classic works of Edgar H. Schein (1973, 1980) on *Organizational Psychology*, the terms "conflict management" and "conflict resolution" are not at all used in them. He discussed intergroup conflicts more than the intragroup conflicts. However, in the 1978 work of Stephen P. Robbins published in *California Management Review*, he used the terms "conflict management" and "conflict resolution" and said that both are not same. He distinguished between them.

There has been a phenomenal increase in the interest on conflict resolution in current days (Aula *et al.*, 2010) because of the increase in tensions among interpersonal, intergroup, inter-organization, and inter cultural (Banner, 1995). Conflict management is a new entrant in the discipline of project management (Al-Sedairy, 1994). Conflict is most avoided part of project management (Englund *et al.*, 2012). Conflict is an integral part of any project (Al-Sedairy, 1994). It is difficult to identify the conflicts in projects (Matta *et al.*, 2000). In projects conflicts can occur between design and requirements, design and implementation and also among designers themselves. Construction projects became very complex and different stakeholders have different conflicting interests and objectives (Yousefi *et al.*, 2010). Usually in the *storming* stage of team development, there are more chances for frequent conflicts.

2. PREVIOUS LITERATURE ON CONFLICT MANAGEMENT

The scholarly literature was collected using keywords such as "conflicts", "conflict management", "reasons for conflicts", "conflict resolution techniques and project success" and "conflicts in projects" in search engines and online journal sources such as Google, Google Scholar, DOAJ.org, and Open-

JGate. The articles from top rated journals such as *Academy of Management Journal*, *Computational Conflicts*, *Project Management Journal*, *Journal of Behavioral and Applied Management*, *International Journal of Managing Projects in Business*, *International Journal of Conflict Management*, *Journal of Academy of Marketing Science*, *Engineering, Construction and Architectural Management*, *Journal of Management in Engineering, Training and Development Journal*, *Leadership & Organization Development Journal*, *Current Issues in Technology Management*, *Chinese Management Studies*, *International Journal of Project Management*, *Team Performance Management*, *Nordicom Review*, *MIS Quarterly*, *Journal of Management Development and Conflict Resolution Quarterly* are collected. The literature is collected between May 2012 and January 2013. The conceptual model development is done between Jan 2013 and March 2013, analysis of reasons for conflicts and conflict resolution techniques is done between March 2013 and April 2013 and report writing is done during April 2013 and June 2013.

According to Barki *et al.* (2001), in the past one group of researchers were working on conflict management styles and another group of researchers were working on level of interpersonal conflict in conflicting situations. Product development involves multidiscipline team or teams. The complexity of product development leads to difficulties in coordination, cooperation and communication resulting into conflicts in teams (Lam *et al.*, 2007). Some of the previous research is concentrating on team conflicts and their relationship to team performance or project performance and outcomes (Jehn *et al.*, 1997; Jehn *et al.*, 2001). The relationship of diversity, conflicts and group performance has been widely researched. Diversity leads to task conflicts, which are good for team performance (Ma *et al.*, 2008; Nair, 2008; Jehn *et al.*, 1997). Task related diversity has more impact on task conflict than on relationship conflict resulting into better team performance (Jehn *et al.*, 1997; Ma *et al.*, 2008).

Al-Sedairy (1994) has done a survey of a hundred thirty-eight construction professionals in Saudi Arabia in public sector construction projects comprising clients, contractors and consultants to find the reasons for conflicts in public sector construction projects and to find the different ways of resolving conflicts. He found that in public sector construction projects in Saudi Arabia, conflicts occur between contractors and clients, and contractors and consultants. The main reasons for conflicts are differences in perceptions, project priorities and goals but not the differences in technical understanding or management style. The findings include *compromise* as preferred way of conflict resolution and cultural differences are not main reasons for conflicts in construction projects in Saudi Arabia. In this study he found that the most frequent and most

serious conflicts are between contractor and consultant, and contractor and client. They occurred during the actual construction stage of the project.

Jehn *et al.*, (1997) surveyed eighty-eight teams of five members each from three US business schools doing MBA program to find out the relationship and impact of value congruence, demographic diversity, and conflicts on workgroup outcomes. They found that individual visible demographic differences such as gender and age increases relationship conflict and informational demographic differences such as education increases task conflict. Group value congruence decreases both task and relationship conflicts. Individual stability and decisiveness resulted into higher performance. The group outcomes considered in this study are member satisfaction, objective performance and perceptions of performance. Task conflict is negatively related to perceived performance and member satisfaction and relationship conflict is negatively related to objective performance, perceived performance and member satisfaction. Task conflict is positively related to objective performance in work groups.

Appelbaum *et al.*, (1999) have studied self-directed teams to find out the impact of conflict management techniques on group decision making. They also presented a set of conflict management alternatives comprising competition, collaboration, compromise, avoidance and accommodation. They explained conflict process and described a four stage conflict incident in self-directed teams. Conflict is inbuilt nature of teams and self-directed teams are in use at organizations such as Procter & Gamble, Xerox Corporation, Motorola, GE, Coca-Cola, and Federal Express (Appelbaum *et al.*, 1999).

Jehn *et al.* (2001) have done a longitudinal study of 51 three-person groups comprising one hundred fifty-three working executives doing part-time MBA at three USA business schools. They found that moderate task conflicts, low levels of relationship conflicts with rise at deadline and low, but increasing levels of process conflicts result into high performance in teams. This is the pattern of conflicts which results into high performance in project teams. They have categorized the conflicts as task conflicts, relationship conflicts and process conflicts. The stable members in the team result into more task related conflicts in the project. Another finding from their research is group value consensus is strongly correlated to group performance.

Barki *et al.* (2001) surveyed two hundred sixty-five information systems staff and two hundred seventy-two users from one hundred sixty-two information systems development projects in Canada to find out the relationship between interpersonal conflict and information systems project success. They found that the conflict management is positively related to IS project success. The interpersonal

conflict construct is reflected by interference, disagreement and negative emotion. In this study, majority of the participants felt that adherence to schedules and budget is the overall success. Also the schedules and budget are strongly correlated to overall success to compare with other factors. In this study it was also observed that the interpersonal conflict, conflict resolution techniques, and satisfactory conflict resolution are strongly correlated to information systems quality. It is also observed that information systems professionals preferred *avoiding* as a technique of conflict resolution over all other techniques. However, *problem solving* is more associated with satisfactory conflict resolution. Satisfactory conflict resolution is positively related to overall project success and process satisfaction. *Avoiding* has negative correlation with overall success; *whereas accommodating, problem solving* and *asserting* are positively correlated to many components of overall information system's success.

Montoya-Weiss: *et al.*, (2001) have experimented on thirty-five member student teams from university in Japan and three universities in US to find the relationship between conflict management and virtual team performance mediated by process structure and temporal coordination. It was found that internal conflict management in virtual teams is critical for team performance mediated by temporal coordination.

Leung *et al.*, (2005) have done a study of seventy-five construction professionals including clients, project managers and project team members in Hong Kong to find the relationship between construction conflicts and participants' satisfaction. They found that moderate level of conflict gives optimum participant satisfaction and the increased levels of conflict diminish satisfaction. They also found that the participants have to balance between task and relationship for project performance. According to their research there is a strong correlation between task conflicts and relationship conflict. They used the term team conflicts to express the relationship conflicts between the stakeholders of the project. In their study both task and relationship conflicts were negatively correlated to participants' satisfaction. Integration style of conflict resolution is positively correlated to participants' satisfaction.

Brahnam *et al.*, (2005) have studied the relationship between gender and conflict resolution techniques used by a study of one hundred sixty-three Information Systems undergraduate students at a Midwest university in USA. They found that women use mostly collaborative style of conflict resolution and men avoid the conflict in information systems projects. They also found that women may possess more attributes of conflict resolution than their men counterparts. Song *et al.*, (2006) have done a survey of two hundred ninety R&D and marketing managers in US to find the relationship between five conflict resolution strategies, constructive and destructive conflicts and innovation performance.

Lam *et al.*, (2007) have done a study of two hundred forty-five manufacturing experts in Hong Kong and found sixteen sources of conflicts and five conflict resolution techniques for client-supplier relationships in new product development teams. They found that conflict has negative impact on new product development performance. Particularly *integrating* and *obliging* styles of conflict resolution are good for better performance and *dominating* and *avoiding* styles of conflict resolution hamper the team performance. They found costs, differences in technical opinions and schedules as top three reasons for conflicts between client and supplier in new product development teams in manufacturing industry. The intensity of conflict also impacts the product quality, costs, schedules and new product development team performance.

Mohammed *et al.*, (2008) surveyed one hundred sixteen Indian, French and UK project managers to study the relationship between culture and conflict management style in international projects. They found that Hofstede's cultural dimensions are correlated to project manager's conflict management styles. Proper cultural management leads to innovation and knowledge creation and gets competitive advantage for the organization. It was also found that Indian project managers prefer *avoiding* and French and to a less extent UK project managers prefer *competing* styles of conflict management.

Ochieng et Price (2009) have interviewed project managers, project directors and project engineers working in 8 organizations from construction, pharmaceutical, energy and petrochemical industries in UK and Kenya to find out the impact of culture on multicultural project team performance. They found that cultural differences can result into conflicts, poor project performance and misunderstandings. They also found currency rate fluctuations, and language can be big issues in multicultural teams.

Doucet *et al.*, (2009) studied sixty-six American and fifty-two Chinese managers working in mainland China to find out the impact of culture on conflict management approaches of these managers. They found that for Chinese managers, it is important to embrace the colleague and teach a moral lesson in case of conflict and for American managers, hostility and vengefulness are important elements. According to them hostility and vengefulness are not included in traditional conflict management frameworks and models.

Vokić et Sontor (2009) surveyed one hundred sixteen Croatian employees to find out the affect of individual characteristics such as age, gender, education, field of work, hierarchy level, marital status and parenthood on choice of conflict resolution styles. They found that *compromising* is most frequently used conflict resolution styles among Croatian employees. It is also observed that parenthood is associated with *accommodating, compromising*

and avoiding styles; married status is associated with accommodating and compromising; gender is associated with accommodating, specifically women employees were using more collaborative styles of conflict resolution such as accommodating and compromising rather than competitive styles of conflict resolution. Age, education, field of work and hierarchy level are not related to choice of conflict handling styles among Croatian employees.

Curseu *et al.*, (2012) have done a research on forty-three short term groups and forty-four long term groups of students at a Dutch University to find the relationship and impact of task conflict, group temporariness and emotional regulation on emergence of relationship conflict. They found that in groups having less effective emotional regulations, task conflicts can become relationship conflicts. The presence of trust reduces the chances of task conflict becoming relationship conflict. These findings are similar to the findings of the research done by Holahan *et Mooney* (2004). Effective emotional regulation can reduce the changes of task conflict becoming relationship conflict. This effect is more for long term groups rather than short term groups. In another research done in mining industry projects in Peru by Rees *et al.*, (2012), it was found that the external factors outside the project have impact on conflict management in Peruvian mining projects. Next section explains the conflict life cycle in projects.

3. CONFLICT LIFE CYCLE

Conflict life cycle describes the dynamic nature of conflict comprising different events or phases of conflict in projects as shown in Figure 1. This is the *process model* of conflict explaining the different internal events of conflict and their interaction. Conflict can be seen as a dynamic process rather than a static component or structure (Jehn *et Mannix*, 2001; Swanström *et Weissmann*, 2005).

According to Appelbaum *et al.*, (1999), the four stages of a conflicting incident are antecedent conditions, cognition and personalization, behaviour and outcome (increased team performance or decreases team performance).

At the time of negotiation in the conflicting stage, the negotiation process has four steps such as establish the issues and set the agenda, opening moves, intensify the negotiation, and work out an agreement (Appelbaum *et al.*, 1999). One can reduce stress, increase productivity and resolve challenges with the help of effective dialogs (Billikopf, 2003). Emotions play critical role in conflicts and they were understudied (Jehn *et al.*, 1997; Nair, 2008). Conflicts elicit emotions and emotions exist throughout the life cycle of conflict (Nair, 2008).

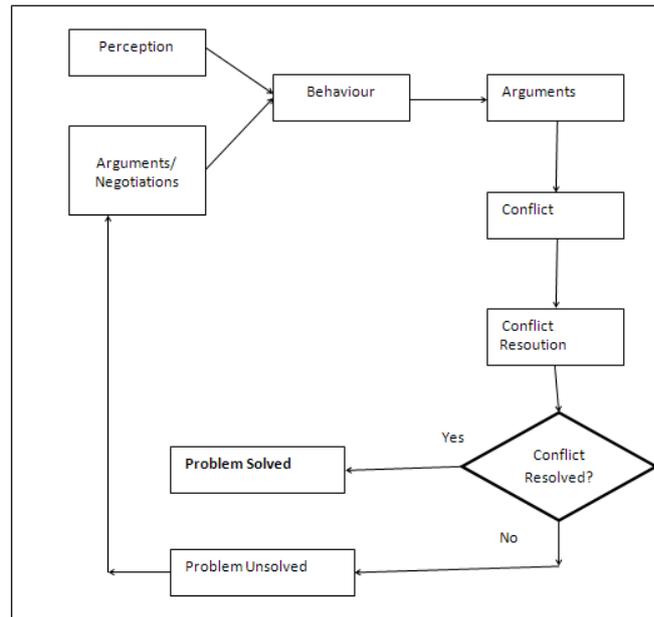


Figure 1: Conflict Life Cycle

4. A MODEL OF CONFLICT MANAGEMENT

Initial models of conflict management were developed in 1970s by organizational and social psychologists (Brahnam *et al.*, 2005). Thomas *et Kilmann* (1974) have developed a two dimensional model consists of conflict resolution techniques such as compromising, accommodating, avoiding, collaborating and competing. Robbins (2003) has given a conflict-survival model with constructs such as conflict, change, adaptation and survival. Organizational effectiveness is high at optimum level of functional conflicts (Robbins, 2003).

With respect to communication, there are three types of conflict management models. They are integrative and distributive negotiation models concentrating on labour negotiations, mediation competency model concentrating on third party interventions and dual concern model concentrating on individual and informal conflict management in organizations (Aula *et Siira*, 2010).

Traditionally conflict management models are of two types. They are *structural models* and *process models* (Appelbaum *et al.*, 1999). *Structural models* deal with factors impacting conflicts in projects and conflicting process. *whereas process models* deal with the sequence of events involved in the conflict. Process models are more of dynamic in nature and structural models are more of static in nature. Darling and Walker (2001) have presented a *behavioral style model* for conflict management comprising behavioral styles such as director, socializer, relater and analyser.

In this paper, a *structural model* (Figure 2) comprising a conceptual model of conflict management and a conflict

management process (Section 5) are presented. The *process model* comprising different events inside a conflict are presented in the Section 3- Conflict Life cycle.

Ochieng *et al.* (2009) have given a framework for managing multi-cultural project teams. They considered 8 dimensions for the model such as cross cultural communication, leadership style, cross-cultural trust, cross-cultural uncertainty, cross-cultural management, cross-cultural management of team development process and team selection, cross-cultural collectivism and composition process.

Barki *et al.* (2001) have given a framework for interpersonal conflict management in information systems projects. They have considered the individual demographic factors, team characteristics and *team processes* such as *communication*, influence and *participation*; project characteristics, *resources* and organizational characteristics such as *organizational structure*, *organizational climate* as antecedents or influencing components interpersonal conflicts which further related to information systems outcomes such as project success, system success, individual performance and organizational performance and efficiency. The proposed model extends Barki *et al.* (2001) model of interpersonal conflict.

According to Schein (1973), *environment factors* comprising social, cultural and technological climate are the factors the conflicts between individual, group and organizational goals.

Team processes in the early stage of the project impacts the overall project performance and project success along the entire project life cycle (Jehn *et al.*, 2001). Thus there should be balance between task conflicts, relationship conflicts and process conflicts at the early stage of the project. This has to be dealt carefully by the project manager. According to Pierce *et al.*, (2007), team communication, decision making and organizational politics are the team processes impacting the team conflicts. According to Stoner *et al.*, (1998) the team processes impacting the team conflicts are the communication, power and persuasion.

Team Conflicts can be categorized as *task conflicts* (Hudson *et al.*, 2005; Leung *et al.*, 2005), *relationship conflicts* (Jehn *et al.*, 1997; Leung *et al.*, 2005; Curseu *et al.*, 2012) and *process conflicts* (Jehn *et al.*, 2001; Song *et al.*, 2006; Sutterfield *et al.*, 2007; Nair, 2008). According to Leung *et al.*, (2005), task conflicts are related to cost, schedules and quality. Task conflicts are the result of differences in opinions and viewpoints over the project tasks (Jehn *et al.*, 2001). *Relationship conflicts* are related to client, project manager and team members and other stakeholders. Relationship conflicts are related to interpersonal incompatibility issues (Jehn *et al.*, 2001). *Process conflicts* are related to duties and resource delegation highlighting the who will

do what and how much each one will do (Jehn *et al.*, 2001).

Task conflict increases the quality of decisions and performance in projects and process conflict reduces the team productivity, team performance and team morale (Hudson *et al.*, 2005). The level of relationship conflicts is low in high performance teams. The conflicts and conflict management can have significant impact on project success (Verma, 1998).

5. CONFLICT MANAGEMENT PROCESS

Conflict management involves first detecting the conflict and then solving it (Matta *et al.*, 2000). One best practice is to look at the conflict as a process (Barki *et al.*, 2001; Robbins, 2003) not to concentrate on conflicting parties (Appelbaum *et al.*, 1999). Warner (2000) presented a conflict management process with building blocks such as conflict management plan, conflict analysis, capacity building and implementation.

Pierce *et al.*, (2007) have given a conflict process originated by the individual's experienced frustration, individual's conceptualization of conflict, conflicting style (all three influenced by other person's behaviour), followed by conflict resolution and conflict aftermath. Aswathappa (1996) has adopted a conflict process from Stephen P Robbins' *Organizational Behaviour*, which has four stages such as potential opposition, cognition and personalization, behaviour and outcomes.

Sutterfield *et al.*, (2007) has described a conflict process with stages such as incompatibility or potential opposition, personalization and cognition, intentions, behaviour and outcomes. They also gave a project conflict management framework with steps such as identification of conflicts, classification of conflicts such as interpersonal, task, or process based, setting conflict strategy selection criteria, identification of alternative conflict handling intention strategies, selection and implementation of conflict handling intention strategies.

Ng *et al.*, (2007) have given dispute resolution steps including prevention, negotiation, standing neutral, non-binding resolution, binding resolution, and litigation. Trust can impact the conflict and negotiation process (Du *et al.*, 2011). Mosaic (2012) in their white paper has given a conflict management process with steps such as assessment, acknowledgement, attitude, action and analysis. According to them, the keys to conflict management process are acknowledging the facts and keep calm and listen to the other party.

The conflict management process has steps such as identify conflicts, analyse conflict, identify alternative

solution, apply conflict resolution technique, choose the best alternative, implement the solution and review the impact (Figure 3).

The factors impacting the conflict management process are the personality differences, values, social and economic

context and subjective individual and group preferences (Stoner et al., 1998). According to Stoner: *et al.*, (1998), Conflict management process also involves communication, power and persuasion. In the next section, the reasons for conflicts in projects are identified.

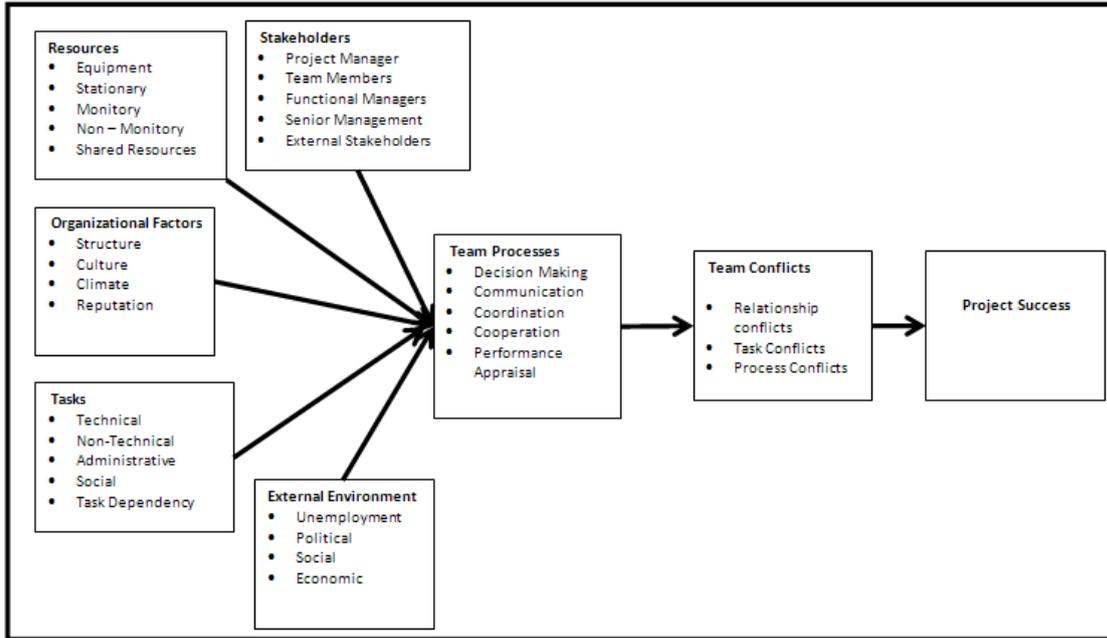


Figure 2: A Model of Conflict Management

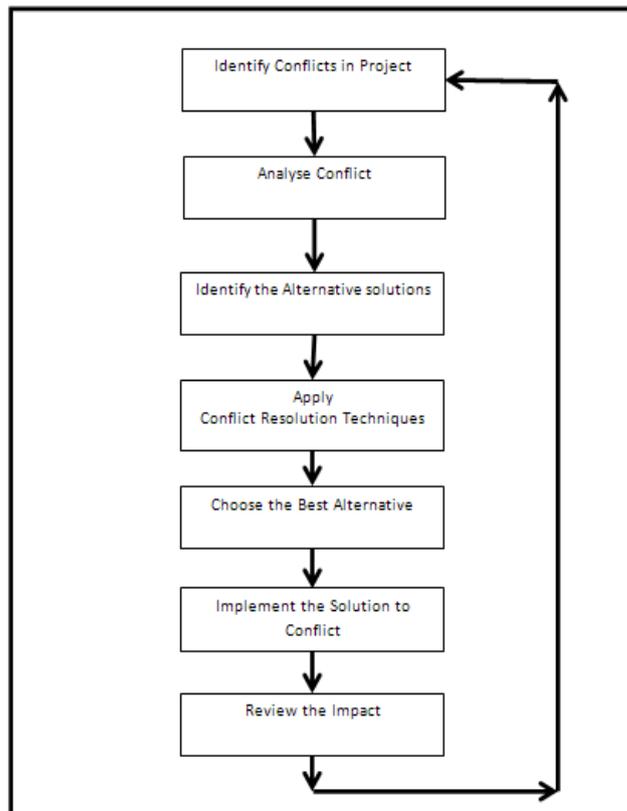


Figure 3: Conflict Management Process

6. IDENTIFICATION OF CONFLICTS IN PROJECTS

There are many reasons for conflicts in projects. Many researchers have given the reasons or sources of conflicts such as Davis (1977), Appelbaum *et al.*, (1999), Warner (2000), Robbins (2003), Mulcahy (2005), and Lam *et al.*,

(2007), etc. The early entrants who has given the reasons or sources of conflicts in 1990s are Al-Sedairy (1994); and Jehn *et al.*, (1997). The reasons for conflicts in projects are identified from the literature and tabulated in Table 1.

Table 1: Reasons for Conflicts in Projects

Sl. No.	Reason for Conflict	Researcher/Author	Number of Occurrences
	Shared/Common Resources	Davis (1977); Gupta (1997); Koontz and Wehrich (1998); Appelbaum <i>et al.</i> (1999); Matta and Corby (2000); Warner (2000); Barki and Hartwick (2001); Montoya-Weiss <i>et al.</i> (2001); Ohlendorf (2001); Robbins (2003); Mulcahy (2005); Lam <i>et al.</i> (2007); Mohammed <i>et al.</i> (2008); Englund and Bucero (2012)	14
	Differences in Project Goal/Objective	Al-Sedairy (1994); Gupta (1997); Koontz and Wehrich (1998); Verma (1998); Barki and Hartwick (2001); Darling and Walker (2001); Ohlendorf (2001); Lam <i>et al.</i> (2007); Ng <i>et al.</i> (2007); Mohammed <i>et al.</i> (2008); Vokić and Sontor (2009); Englund and Bucero (2012)	12
	Cultural Differences	Al-Sedairy (1994); Prasad (1994); Aswathappa (1996); Warner (2000); Brahnam <i>et al.</i> (2005); Lam <i>et al.</i> (2007); Ng <i>et al.</i> (2007); Mohammed <i>et al.</i> (2008); Englund and Bucero (2012); Rees <i>et al.</i> (2012)	10
	Values Differences	Prasad (1994); Aswathappa (1996); Jehn <i>et al.</i> (1997); Koontz and Wehrich (1998); Darling and Walker (2001); Ohlendorf (2001); Robbins (2003); Mohammed <i>et al.</i> (2008); Vokić and Sontor (2009); Englund and Bucero (2012)	10
	Personality Issues	Davis (1977); Prasad (1994); Aswathappa (1996); Verma (1998); Barki and Hartwick (2001); Ohlendorf (2001); Mulcahy (2005); Meredith and Mantel (2007); Mohammed <i>et al.</i> (2008); Thomas (2009)	10
	Differences in Technical Opinions/Approaches	Al-Sedairy (1994); Verma (1998); Mulcahy (2005); Lam <i>et al.</i> (2007); Meredith and Mantel (2007); Ng <i>et al.</i> (2007); Mohammed <i>et al.</i> (2008); Vokić and Sontor (2009); Yousefi <i>et al.</i> (2010)	9
	Schedules	Al-Sedairy (1994); Verma (1998); Barki and Hartwick (2001); Montoya-Weiss <i>et al.</i> (2001); Leung <i>et al.</i> (2005); Mulcahy (2005); Lam <i>et al.</i> (2007); Meredith and Mantel (2007); Mohammed <i>et al.</i> (2008)	9
	Costs	Al-Sedairy (1994); Verma (1998); Leung <i>et al.</i> (2005); Mulcahy (2005); Lam <i>et al.</i> (2007); Meredith and Mantel (2007); Mohammed <i>et al.</i> (2008); Rees <i>et al.</i> (2012)	8

Administrative procedures	Verma (1998); Appelbaum et al. (1999); Darling and Walker (2001); Mulcahy (2005); Lam et al. (2007); Meredith and Mantel (2007); Ng et al. (2007); Mohammed et al. (2008)	8
Different Perceptions	Davis (1977); Al-Sedairy (1994); Aswathappa (1996); Gupta (1997); Koontz and Wehrich (1998); Ohlendorf (2001); Englund and Bucero (2012)	7
Individual needs	Matta and Corby (2000); Barki and Hartwick (2001); Darling and Walker (2001); Ohlendorf (2001); Vokić and Sontor (2009); Englund and Bucero (2012)	6
Language Differences	Lam et al. (2007); Ng et al. (2007); CIPD (2008); Ochieng and Price (2009); Rees et al. (2012)	5
Role Ambiguity	Davis (1977); Prasad (1994); Aswathappa (1996); Lam et al. (2007); CIPD (2008)	5
Project Priorities	Al-Sedairy (1994); Verma (1998); Matta and Corby (2000); Mulcahy (2005); Meredith and Mantel (2007)	5
Ambiguous Requirements/ Specifications	Al-Sedairy (1994); Verma (1998); Matta and Corby (2000); Lam et al. (2007); Mohammed et al. (2008)	5
Noise in Communication Channels	Davis (1977); Appelbaum et al. (1999); Robbins (2003); CIPD (2008); Vokić and Sontor (2009)	5
Demographic Differences	Gupta (1997); Jehn et al. (1997); Warner (2000); Barki and Hartwick (2001); Robbins (2003)	5
Leadership style	Koontz and Wehrich (1998); Verma (1998); CIPD (2008); Mohammed et al. (2008); Rees et al. (2012)	5
Communication Process	Appelbaum et al. (1999); Matta and Corby (2000); Ng et al. (2007); Mohammed et al. (2008)	4
Education and Experience differences	Jehn et al. (1997); Koontz and Wehrich (1998); Barki and Hartwick (2001); Robbins (2003)	4
Organizational Structure	Gupta (1997); Barki and Hartwick (2001); Ng et al. (2007); Rees et al. (2012)	4
Political Unrest	Warner (2000); Darling and Walker (2001); Ng et al. (2007); Mohammed et al. (2008)	4
Economic/ Financial Situation	Warner (2000); Darling and Walker (2001); Ng et al. (2007); Yousefi et al. (2010)	4
Task Interdependence	Gupta (1997); Koontz and Wehrich (1998); Montoya-Weiss et al. (2001); Robbins (2003)	4
Social Issues	Prasad (1994); Aswathappa (1996); Ng et al. (2007); Warner (2000)	4
Lack of trust	Warner (2000); Lam et al. (2007); Du et al. (2011)	3

Individual Interests	Prasad (1994); Barki and Hartwick (2001); Vokić and Sontor (2009)	3
Individual Expectations	Ohlendorf (2001); Ng et al. (2007); Englund and Bucero (2012)	3
Differences in Evaluation Criteria and Reward Systems	Gupta (1997); Robbins (2003); Mohammed et al. (2008)	3
Ego States	Prasad (1994); Aswathappa (1996); Verma (1998)	3
External Environment	Gupta (1997); Ng et al. (2007); Vokić and Sontor (2009)	3
Wrong/Insufficient Information	Appelbaum et al. (1999); Lam et al. (2007);	2
Quality	Leung et al. (2005); Ng et al. (2007)	2
Lack of Project Management Skills	Al-Sedairy (1994); Ohlendorf (2001)	2
Contractual agreements	Al-Sedairy (1994); Ng et al. (2007)	2
Manpower Issues	Al-Sedairy (1994); Verma (1998)	2
Organizational Status	Barki and Hartwick (2001); Rees et al. (2012)	2
Age Differences	Jehn et al. (1997); Robbins (2003)	2
One-way task dependence	Gupta (1997); Robbins (2003)	2
High Horizontal differentiation	Gupta (1997); Robbins (2003)	2
Low Formulization	Gupta (1997); Robbins (2003)	2
Participative Decision making	Gupta (1997); Robbins (2003)	2
Status incongruence	Gupta (1997); Robbins (2003)	2
Role Dissatisfaction	Gupta (1997); Robbins (2003)	2
Different Political Views	Prasad (1994); Warner (2000)	2
Different Religious Views	Prasad (1994); Warner (2000)	2
Magnitude of work	Vokić and Sontor (2009); Yousefi et al. (2010)	2
Project Planning Issues	Warner (2000); Yousefi et al. (2010);	2
Conflict Management System (CMS)	Warner (2000); Rees et al. (2012)	2
Individual Attitudes	Ohlendorf (2001); Rees et al. (2012)	2
Ethical Issues	Verma (1998); CIPD (2008)	2
Lack of Mutual Understanding	Lam et al. (2007);	1
Project Vocabulary	Lam et al. (2007);	1
Unclear Tasks	Lam et al. (2007);	1
Popularity of Teamwork	Brahnam et al. (2005);	1
Semantic Difficulties	Appelbaum et al. (1999)	1
Individual Role Behavior	Appelbaum et al. (1999)	1
Differences in Project Understanding	Al-Sedairy (1994)	1
Team size	Barki and Hartwick (2001)	1
Team leadership	Barki and Hartwick (2001)	1
Team Processes	Barki and Hartwick (2001)	1

Lack of Top Management Support	Barki and Hartwick (2001)	1
Project Success Criteria	Barki and Hartwick (2001)	1
Organizational Climate	Barki and Hartwick (2001)	1
Team Climate	Sudhakar et al. (2011)	1
Gender Differences	Jehn et al. (1997)	1
Currency rate fluctuations	Ochieng and Price (2009)	1
Technological Changes	Darling and Walker (2001)	1
Global Shifting of Power	Darling and Walker (2001)	1
Lack of Communication	Koontz and Wehrich (1998)	1
Different Viewpoints	Davis (1977)	1
Group loyalty	Davis (1977)	1
Situational Issues	Prasad (1994)	1
Temperaments	Aswathappa (1996)	1
Change	Armstrong (1984)	1
Frustration	Armstrong (1984)	1
Project Constraints	Matta and Corby (2000)	1
Quality	Matta and Corby (2000)	1
Project complexity	Yousefi et al. (2010)	1
Lack of Coordination	Yousefi et al. (2010)	1
Contract Documents	Yousefi et al. (2010)	1
Project Site related Issues	Yousefi et al. (2010)	1
Unfair distribution of profits	Warner (2000)	1
Unfair distribution of work	Warner (2000)	1
Ownership issues	Warner (2000)	1
Structural Injustices	Warner (2000)	1
Unclear Laws	Warner (2000)	1
Fear	Warner (2000)	1
Individual Preferences	Vokić and Sontor (2009)	1
Cross Functional Collaboration	Rees et al. (2012)	1
Community Relationships	Rees et al. (2012)	1
Organizational Policies	Rees et al. (2012)	1
Project Incentives	Rees et al. (2012)	1
Personal Use of Internet/Email	CIPD (2008)	1
Attendance and time keeping	CIPD (2008)	1
Any form of harassment	CIPD (2008)	1
Discriminatory Behaviour	CIPD (2008)	1
Theft	CIPD (2008)	1
Drink or Drug Problems	CIPD (2008)	1
Favouritism	CIPD (2008)	1
Project Performance	Ng et al. (2007)	1

	Payment	Ng et al. (2007)	1
	Information Sharing	Ng et al. (2007)	1
	Negligence	Ng et al. (2007)	1
	Weather	Ng et al. (2007)	1

From the one hundred five reasons for conflicts in projects identified, based on the number of occurrences in literature top-10 reasons for conflicts in projects are found and tabulated in Table 2.

Table 2: Top-10 Reasons for Conflicts in Projects

Sl. No.	Reason for Conflict	Number of Occurrences in Literature
1.	Shared/Common Resources	14
2.	Differences in Project Goal/Objective	12
3.	Cultural Differences	10
4.	Values Differences	10
5.	Personality Issues	10
6.	Differences in Technical Opinions/Approaches	9
7.	Schedules	9
8.	Costs	8
9.	Administrative procedures	8
10.	Different Perceptions	7

Shared or common resources, differences in project goal or objective are the top reasons for conflicts in projects. Interestingly the leadership style of the project manager is not in the top-10 reasons for conflicts in the project. Cultural and value differences are also the reasons for conflicts as in projects. In the next section, the frequently used conflict resolution techniques in projects are identified.

8. CONFLICT RESOLUTION TECHNIQUES

According to Verma (1998), structural conflicts can be resolved using procedural changes, personnel changes, resource changes, authority changes and layout changes. Interpersonal conflicts can be resolved using the conflict resolution techniques such as avoidance, give and take, problem-solving, collaboration and negotiation.

Different researchers have used different terminology for mentioning conflict resolution techniques. Researchers such as Thomas and Kilmann (1974), Robbins (1978), Lippit(1982), Stoner *et al.*,(1998), Verma (1998), Heldman (2003), Mulcahy (2005), and Lam *et al.*, (2007) have given different conflict resolution techniques to be used in projects. The conflict resolution techniques identified along with their number of occurrences in literature are given in Table 3.

Asserting ensures the win to one party at the expense of other party. It is a one way solution (Barki *et Hartwick*, 2001). *Domination* and *forcing* create win-lose situation for the parties in conflict (Lam *et al.*, 2007). *Integrating* style is effective approach for project performance and it creates win-win situation for the parties (Leung *et al.*, 2005; Lam *et al.*, 2007). *Avoiding* is most disruptive style of conflict management in projects (Brahnam *et al.*, 2005). In this style of conflict resolution, one party is indifferent to feelings of other party and one party keeps away from participating in conflict at all (Barki *et Hartwick*, 2001). It leaves the conflict unresolved and creates anger or frustration in other party and it propagates the conflict further. In *Accommodating*, one party sacrifices their own needs, wants and expectation to satisfy the other party. In *compromising* style of conflict resolution, both the parties give and take and they win something and lose something (Barki *et Hartwick*, 2001; Ohlendorf, 2001). *Confrontation or problem solving* tries to satisfy all the parties in conflict by keeping all the facts and figures in picture and use scientific techniques in solving the problem. It creates win-win situation for all the parties in conflict (Verma, 1998; Ohlendorf, 2001; Heldman, 2003; Mosaic, 2012). Understanding each parties standing through a pre-caucus is a foundation of conflict management (Billikopf, 2003).

Table 3: Conflict Resolution Techniques in Projects

Sl. No.	Conflict Resolution Technique	Researcher/Author	Number of Occurrences
	Avoiding/ Withdrawal	Thomas and Kilmann (1974); Robbins (1978); Johnson and Johnson (1982); Lippit(1982); Al-Sedairy (1994); Prasad (1994); Aswathappa (1996); Koontz and Wehrich (1998); Verma (1998); Appelbaum et al. (1999); Warner (2000); Barki and Hartwick (2001); Ohlendorf (2001); Billikopf (2003); Heldman (2003); Brahnam et al. (2005); Mulcahy (2005); Song et al. (2006); Lam et al. (2007); Pierce et al. (2007); Sutterfield et al. (2007); Mohammed et al. (2008); Nair (2008); Ross (2009); Thomas (2009); Vokić and Sontor (2009); Mosaic (2012)	27
	Compromising	Thomas and Kilmann (1974); Robbins (1978); Johnson and Johnson (1982); Lippit(1982); Armstrong (1984); Al-Sedairy (1994); Prasad (1994); Aswathappa (1996); Koontz and Wehrich (1998); Stoner et al. (1998); Verma (1998); Appelbaum et al. (1999); Warner (2000); Barki and Hartwick (2001); Ohlendorf (2001); Heldman (2003); Brahnam et al. (2005); Mulcahy (2005); Song et al. (2006); Lam et al. (2007); Sutterfield et al. (2007); Mohammed et al. (2008); Nair (2008); Thomas (2009); Vokić and Sontor (2009); Mosaic (2012)	26
	Confronting/ Problem Solving	Robbins (1978); Johnson and Johnson (1982); Lippit(1982); Armstrong (1984); Al-Sedairy (1994); Prasad (1994); Koontz and Wehrich (1998); Verma (1998); Barki and Hartwick (2001); Ohlendorf (2001); Billikopf (2003); Heldman (2003); Robbins (2003); Mulcahy (2005); Mohammed et al. (2008); Du et al. (2011); Mosaic (2012)	17
	Accommodating	Thomas and Kilmann (1974); Aswathappa (1996); Appelbaum et al. (1999); Warner (2000); Barki and Hartwick (2001); Brahnam et al. (2005); Song et al. (2006); Pierce et al. (2007); Sutterfield et al. (2007); Mohammed et al. (2008); Ross (2009); Thomas (2009); Vokić and Sontor (2009)	13
	Smoothing	Robbins (1978) ; Johnson and Johnson (1982); Lippit(1982); Al-Sedairy (1994); Prasad (1994); Koontz and Wehrich (1998); Verma (1998); Ohlendorf (2001); Heldman (2003); Mulcahy (2005); Mohammed et al. (2008); Du et al. (2011); Mosaic (2012)	13
	Collaborating	Thomas and Kilmann (1974); Aswathappa (1996); Verma (1998); Appelbaum et al. (1999); Brahnam et al. (2005); Pierce et al. (2007); Sutterfield et al. (2007); Mohammed et al. (2008); Ross (2009); Thomas (2009); Vokić and Sontor (2009); Du et al. (2011)	12

	Forcing	Johnson and Johnson (1982); Lippit(1982); Al-Sedairy (1994); Koontz and Wehrich (1998); Verma (1998); Warner (2000); Ohlendorf (2001); Heldman (2003); Mulcahy (2005); Song et al. (2006); Mohammed et al. (2008); Mosaic (2012)	12
	Competing	Thomas and Kilmann (1974); Aswathappa (1996); Appelbaum et al. (1999); Brahnam et al. (2005); Pierce et al. (2007); Sutterfield et al. (2007); Mohammed et al. (2008); Ross (2009); Thomas (2009); Vokić and Sontor (2009)	10
	Integrating	Gupta (1997); Leung et al. (2005); Song et al. (2006); Lam et al. (2007); Nair (2008); Vokić and Sontor (2009); Du et al. (2011)	7
	Negotiation	Stoner et al. (1998); Verma (1998); Ross (2009); Yousefi et al. (2010)	4
	Mediation	Billikopf (2003); CIPD (2008); Ross (2009); Yousefi et al. (2010)	4
	Obliging	Lam et al. (2007); Nair (2008); Vokić and Sontor (2009)	3
	Dominating	Lam et al. (2007); Nair (2008); Vokić and Sontor (2009)	3
	Make Structural change	Robbins (1978) ; Gupta (1997); Koontz and Wehrich (1998)	3
	Superordinate goals	Robbins (1978); Robbins (2003)	2
	Authoritative Command	Robbins (1978); Robbins (2003)	2
	Asserting	Barki and Hartwick (2001)	1
	Offer	Stoner et al. (1998)	1
	Counter-Offer	Stoner et al. (1998)	1
	Concession	Stoner et al. (1998)	1
	Agreement	Stoner et al. (1998)	1
	Coordinating	Koontz and Wehrich (1998)	1
	Expansion of Resources	Robbins (1978)	1
	Alter Human Variable	Robbins (1978)	1
	Reduce Interdependencies	Robbins (2003)	1
	Appeals Systems	Robbins (2003)	1
	Increased Interaction	Robbins (2003)	1
	Organization wide reward and recognition system	Robbins (2003)	1
	Diffusion	Gupta (1997)	1
	Complementarity	Gupta (1997)	1
	Peaceful Co-existence	Armstrong (1984)	1
	Fighting it out	Billikopf (2003)	1
	Yielding	Billikopf (2003)	1
	Lumping-it	Nair (2008)	1
	Consensus-building	Warner (2000)	1
	Doing nothing	Warner (2000)	1
	Sharing	Mohammed et al. (2008)	1
	Firm Flexibility	Thomas (2009)	1
	Postponement	Thomas (2009)	1
	Cooperating	Du et al. (2011)	1

One defensive approach is to change the topic (Billikopf, 2003). According to Heldman (2003), *smoothing* technique results into lose-lose situation for both the parties. It does not provide a permanent solution to the conflict but it provides a temporary fix. *Forcing* creates a win-lose situation. The forcing party wins and the other party loses (Heldman, 2003). But it did not give positive impact over long run. *Negotiation* is a process of interaction between both the parties using different communication channels in resolving conflict in a mutually beneficial way (Stoner *et al.*, 1998). *Collaborating* and *accommodating* are the cooperative styles of conflict resolution and *avoiding* and *competing* are uncooperative styles of conflict resolution (Pierce *et al.*, 2007). *Collaboration* in an attempt to satisfy all the parties creates a win-win situation for all the parties. It is the most valued strategy in the industry (Sutterfield *et al.*, 2007; Vokić *et Sontor*, 2009). Also *competing* and *collaborating* are assertive styles and *avoiding* and *accommodating* are unassertive styles of conflict resolution (Pierce *et al.*, 2007). Using *collaboration*, one can create a win-win situation for the parties in conflict (Ross, 2009). *Authoritative command* is different from *forcing* because authoritative commands can only be given by the project manager; whereas, forcing (in different means) can be done by any team member or any other stakeholder.

Cooperative styles of conflict resolution create positive emotions in the team leading to constructive conflict management (Nair, 2008) in turn resulting into better relationships, performance, organizational environment, and innovation (Song *et al.*, 2006). Top management in organizations need *integration* style of conflict resolution. This style is positively associated with team performance (Song *et al.*, 2006). Cooperative conflict resolution styles such as *integrating*, *accommodation* and *compromise* (Montoya-Weiss *et al.*, 2001) are positively associated with higher levels of constructive conflicts, lower levels of destructive conflicts and increased innovation and performance (Song *et al.*, 2006). Non-cooperative and competitive conflict resolution strategies such as *avoiding* (Montoya-Weiss *et al.*, 2001) and *forcing* are negatively related to constructive conflicts and increase the destructive conflicts leading to reduced innovation and performance (Song *et al.*, 2006). According to Song *et al.*, (2006), *compromise* is not effective at project level but it may be good at organization level. Collaborating is positively related to team performance and compromising is negatively related to team performance (Montoya-Weiss *et al.*, 2001). While dealing with conflicts one has to avoid 'Tit for Tat' reactions in organizations (HBSP, 2004).

Different ways of avoiding conflict as given by Appelbaum *et al.*, (1999) are denial, flight, suspension, and relinquishment. Devils Advocacy (DA) is one technique used to resolve conflicts in group decision making in projects. While dealing with conflicts the managers have to separate

people from the conflict and have to concentrate on the issue not on the positions (Billikopf, 2003; Meredith *et Mantel*, 2007; Anderson Jr *et Polkinghorn*, 2008). The project manager who deals with fairness is respected much by the team members in long run (Billikopf, 2003). The specific conflict resolution technique has to be chosen based on the importance and type of conflict, time pressures, emphasis on task vs. relationships, and the position of the members involved in the conflict (Verma, 1998). The important point in resolving conflict is one has to balance between adjusting self and adjusting others (Du *et al.*, 2011).

From the identified conflict resolution techniques in Table 3, top-5 frequently used conflict resolution techniques in projects are given in Table 4.

Table 4: Most Frequently used Conflict Resolution Techniques in Projects (Top-5)

Sl. No.	Conflict Resolution Technique	Number of Occurrences in Literature
1.	Avoiding/ Withdrawal	27
2.	Compromising	26
3.	Confronting/ Problem Solving	17
4.	Accommodating	13
5.	Smoothing	13

People use avoiding and compromising more frequently than any other conflict resolution technique; followed by confronting, accommodating and smoothing. How to analyse the conflict is given in next section.

7. ANALYSING THE CONFLICTS

Conflict analysis should be done with self-introspection and estimating the costs of conflict (Prasad, 1994). Interpersonal conflicts can also be analysed using transaction analysis, Johari window, life positions and stroking (Aswathappa, 1996). It is best practice to prioritise the conflicts when multiple conflicts are present in the project (Warner, 2000). According to Warner (2000), conflict analysis includes brainstorming to find the present and future conflicts, cluster related conflicts, prioritize conflicts with 'urgency' and 'significance', identify the important conflicts and also identify the stakeholders related to the conflicts.

The project managers have to listen carefully to the team members and attitude (Verma, 1998), communication and negotiation are keys to conflict management (Hudson *et al.*, 2005). Ohlendorf (2001) has given a *cognitive conflict*

analysis approach with six steps such as identification of conflict, generation of conflict cases, judgement execution, results analysis, cognitive feedback and negotiation between conflicting parties. Next section explains choosing the best alternative.

9. CHOOSING THE BEST ALTERNATIVE

Conflict has got both positive and negative outcomes (Song *et al.*, 2006). Positive outcomes include innovation, creativity, greater self-awareness and learning (Song *et al.*, 2006). Negative outcomes include competition, disputes, strained relationships, low morale, inefficiency (Englund *et al.*, 2012), low productivity and performance (Song *et al.*, 2006), grievances, attrition, higher absenteeism, mistrust, low motivation and less job satisfaction and reduced coordination and cohesiveness (Barki *et al.*, 2001). Usually project managers prefer negotiation to find the best alternative solution for the conflict in picture (Yousefi *et al.*, 2010). The attitude of project manager is a predictor of conflict outcome. When the project manager exhibits positive attitude more positive and beneficial outcomes result from the negotiation process (Yousefi *et al.*, 2010). In conflicting situation, one has to convert the destructive conflict into a constructive cooperation and collaboration for the better project performance (Reich, 2006; Du *et al.*, 2011).

It is the style of conflict resolution and which technique is used in conflict resolution determines the positive or negative outcomes (Hudson *et al.*, 2005). Hence, based on the outcomes of conflict resolution, one has to decide the best alternative solution for conflict in picture. In information systems development, satisfactory conflict resolution has got positive impact on information systems outcomes (Barki *et al.*, 2001). *Partnering* is one of the conflict prevention method used in large scale urban projects in Canada (Ross, 2009). According to Ross (2009), most of the research on conflict management has concentrated on conflict resolution rather than on conflict prevention. The advantages of partnering include increased team work, new opportunities, foster team spirit, clarified communication and decision making processes. Choosing the best conflict resolution style is the most fundamental skill for project managers (Thomas, 2009). Next section deals with implementing the solution to conflict in projects.

10. IMPLEMENTING THE SOLUTION TO CONFLICT

Usually conflict results into creative ideas, creation of new policies, procedures, services and products (Appelbaum *et al.*, 1999). Implementation of solution for conflict may result into additional costs as well. The conflicts and styles of conflict resolution in projects effect individual, team,

project, departmental and organizational outcomes (Barki *et al.*, 2001). Sometimes they even impact the country's economy at large if the project is a huge project. The project manager needs to stimulate the conflicts to the opposing party to reach constructive functional conflict using techniques such as communication, heterogeneity and competition (Robbins, 2003).

It is best practice to have a conflict management plan with strategies to handle conflicts whether to prevent, resolve, prioritize and act. It should also consists of capacity building and training steps and measures to deal with conflicts. Large team size, functional diversity and team tenure diversity promotes constructive conflicts in projects (Holahan *et al.*, 2004). The implementation of solution to conflict leads to change management in the organization.

11. REVIEW THE IMPACT

The impact of conflict and its solution implementation can impact at individual, team, project, business unit and organizational level. The impact on individual will be in terms of job satisfaction and individual performance. The outcomes or impact on project include project success with impacting dimensions such as schedules, costs, quality, specifications and process satisfaction (Barki *et al.*, 2001). The impact on team would be increased or decreased innovation, productivity (Thomas, 2009), and performance. The impact on organization would be in terms of organizational efficiency, effectiveness and performance. The organizational and business unit earnings and profitability can also be impacted by the conflict management in projects. Thus the project manager and top management should review the above mentioned dimensions after implementing the solution to the conflict in picture. Task conflicts play major role in innovation, decision quality (Holahan *et al.*, 2004), creativity and in generating new ideas and thoughts (Song *et al.*, 2006; Vokić *et al.*, 2009).

According to Darling and Walker (2001), conflict results into change (Swanström *et al.*, 2005), change further results into adaption and adaptation further results into growth and survival. It is the ability to get along with people which decides the success or failure for an individual in conflicting situations (Darling *et al.*, 2001). This is nothing but the "social intelligence". Emotional intelligence and social intelligence are very much important for a project manager to succeed in conflicting situations.

According to Johnson and Johnson (1982), constructive conflicts make one understand the problem better, encourages change (Aula *et al.*, 2010), motivates, makes life more interesting, reduces irritations on someone, strengthens and deepens the relationships, stimulates

creativity, and increases the team cohesiveness. According to Robbins (1978), change is inspired by conflict (Davis, 1977) and conflict is the catalyst for change. If change is not managed properly, it impacts the team member morale, commitment, participation, motivation and further leads to conflicts in the project again (Armstrong, 1984). If conflict is not managed properly, it turns out to be litigations, law suits, bad feelings, employee attrition (Vokić *et Sontor*, 2009), reduced trust and reduced motivation (Mohammed *et al.*, 2008). Project stakeholders must trust each other and respect each other (Ross, 2009; Du *et al.*, 2011).

The negative impacts of conflicts include schedule, cost overruns, increased staff turnover, project sponsorship problems, reduced team reputation, low team morale and reduced cooperation among project stakeholders (Warner, 2000). Hence, the impact of implementation of solution to the conflict is to be assessed in the project and also in the organization.

12. CONCLUSION

Conflict management can be formal or informal (Swanström *et Weissmann*, 2005). Best results come when you combine both. One important thing is conflict management in projects or organizations should be ethical (Aula *et Siira*, 2010). It is best practice to have conflict management systems (CMS) in projects with characteristics such as input, transformation, output, purpose, boundaries and feedback (Aula *et Siira*, 2010). Conflict management systems should have right based, interest based and negotiation based processes. Constructive conflict management leads to more innovation and better performance. Organizations have to make the conflict management as core competency. They should do capacity building in this direction. General Electric (GE) emphasizes collaborative style of conflict resolution throughout the organization. Different personalities deal with conflict in different ways.

SCOPE FOR FURTHER RESEARCH

In this paper, a conceptual model of conflict management is given. One hundred five reasons for conflicts and forty conflict resolution techniques in projects are identified. Based on the secondary research top-10 reasons for conflicts and top-5 frequently used conflict resolution techniques are given. Further empirical studies can be conducted based on the items found from literature review to find the reasons for conflicts and conflict resolution techniques based on primary data; and also the impacts and intensity of relationships between different components of the conceptual model can also be further investigated. This can give new directions and inputs to research in conflict management in projects.

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