

UNIVERSITY OF KWAZULU-NATAL

**CONFLICT MANAGEMENT APPROACHES USED BY SOUTH AFRICAN
CONSTRUCTION PROJECT MANAGEMENT PROFESSIONALS**

By

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DECLARATION

I, Ian van Aardt declare that:

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ABSTRACT

In the construction industry, conflict is almost considered 'normal'. It is to be expected, given that construction is a diverse industry, involving many people from different trades, industries, and professions. At the same time, any single project will engage many parties, each bringing to the endeavour their own divergent objectives, interests, and needs. The aim of this study was to establish the prevalence of conflict situations within the construction project management environment. The research objectives were to assess the frequency and intensity of conflict, as well as to determine the present level of conflict management skills in use. In order to understand the many facets of conflict management and how they would be applicable to this study, a literature review was first undertaken into the emergence, causation, typology, and management of conflict. Then to achieve the research objectives, a descriptive methodology was used in order to collect data of a qualitative nature. An online questionnaire was developed and deployed to 625 participants with valid results received from 122 out of 153 respondents. The findings of this study indicated that construction management practitioners experience conflict frequently and will likely have been involved in a conflict scenario within the past month, if not more recently. The results further indicated that practitioners generally believe that conflict stems from a lack of effective communication and complex ambiguous information, rather than from technical matters and difficult personalities. To deal with this, most practitioners have had to develop their own methods and techniques for managing conflict and regard having a positive mind-set as the most important attitudinal requirement. Furthermore, practitioners rank the skills of listening, questioning, and defining issues as the most important for effective conflict management. As an outcome of this study, construction practitioners are provided with some insights into the prevalence of conflict in construction projects and the motivation for better skills development in conflict management is provided. Finally, it is recommended that all contracting parties familiarize themselves with contractual documentation and attempt to hold workshops early on in projects in order to diffuse any adversity resulting from conflicting views and interpretations. The aim is to develop a mutual understanding around the *raison d'être* for the contract and to hopefully set a positive tone, under which it will be possible to manage towards mutually favourable outcomes for all parties involved in a project.

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Chapter One: Introduction

1.1 Introduction

This chapter presents the reasons for the research, contains the objectives, and mentions the significance and limitations of the research. Conflict is inherent in any work environment where there is more than one individual responsible for the outcome and before it can be resolved, it must be understood.

Most conflict begins when there is a difference arising from opposing points of view between at least two individuals. The opposing views might be based on differing opinions, differing objectives, different interpretations of the same information or even differences in understanding.

In the construction industry, conflict is almost considered 'normal'. It is to be expected, given that construction is a diverse industry, utilising many people from different trades, industries, and professions. At the same time, any single project will involve many parties, each bringing to the endeavour their own divergent objectives, interests, and needs.

However, there may be a positive side to construction conflict: it is also, what fundamentally drives forward issues, helping to get problems and potential roadblocks exposed so that they can be addressed.

1.2 Focus of the Study

This study focuses on the phenomenon of conflict that occurs during the management of construction projects in South Africa. The intention is to understand the current areas of conflict management skills used by project practitioners and identify skills development gaps. The study includes a review of literature relating to the emergence, causation, and management of conflict in general and on construction projects more specifically.

A sample was be drawn from practitioners in the construction project management field, including quantity surveyors, engineers, architects, construction managers, and project managers. There are 3,640 (2014) registered members on the national register of Construction Management Professionals maintained by the South African Council for Project and Construction Management Professions (SACPCMP). Many

practitioners however are not registered, as there presently is no prescribed requirement for project managers in the construction sector to be affiliated with any professional body. Approximately 429 000 people are employed in the construction industry (PWC, 2013). Because of the uncertain population definition, opportunity sampling was utilised for its convenience. However, in order for the study results to be generalisable to construction project management practitioners in South Africa, a sample size of 383 individuals was desired the purpose and objectives of the study.

1.3 Problem Statement

Substantive and affective conflicts are both recognized to have negative impacts on team satisfaction levels and group potential (De Drue and Weingart, 2003). However, Rahim (2002) states that conflict management diminishes the consequences of conflict and promotes the benefits, ultimately improving learning within an organisation, whilst Dada (2013) also rationalised that previous conflicts lead to the learning of useful lessons and better understanding amongst project team members.

These academic viewpoints suggest it would be reasonable to expect conflict management to feature strongly in the construction project managers' skill set and in the curricula of construction education programmes. Especially when one considers that conflict is almost synonymous with the construction sector. Conflicts lead to increases in project costs and delays, losses in productivity and profit, and cause damage to working relationships. How much of a construction project manager's time is devoted to managing conflict and are project managers successfully managing conflicts for positive outcomes? This research is needed to study the central phenomenon of conflict in the South African construction sector and explore ways to minimise and manage it for better project outcomes.

1.4 Research Objectives

This study aims to establish the extent (frequency and intensity) of conflict situations in South African construction project management scenarios. The study evaluates the present conflict management approaches used by practitioners and the success of those approaches, allowing for an understanding of the gaps in the present skills level of project managers, and potentially identify future focus areas for skills development.

This should promote better conflict management capabilities and ultimately have construction projects benefit from well-managed, constructive conflict.

The research objectives of this study are thus as follows:

- To determine the frequency and intensity of conflict experienced by construction project managers.
- To ascertain what conflict management strategies construction project managers make use of.
- To understand the perceived effectiveness of present conflict management skills and techniques in use.
- To establish the perceived importance and value of formal conflict management training and education for construction project managers.

1.5 Significance of the Study

To understand the predominance of conflict in the construction industry and the current conflict management skills utilised by construction practitioners in order to deal with conflict. It is hoped that the study will provide these insights and furthermore allow recommendations to be made that will promote better conflict management capabilities and ultimately see construction projects benefit from well-managed conflict.

The findings of this study should be of interest to not only practitioners themselves, but also construction companies and engineering firms that engage their services. In addition, clients who regularly invest in large capital projects will also benefit from having a better insight into the prevalence of conflict in their projects and the benefits that may arise from having their own team members trained in conflict management skills.

1.6 Limitations of the Study

The nature of the study and the target population gives rise to certain expected limitations of the study:

1. The measurements relied on the perceptions of the respondents and will therefore be subjective, which may limit the general transferability of the results to other projects and individuals.
2. Use of opportunity sampling (convenience) inhibits insight into the sampling frame and some inherent bias in convenience sampling undermines the representivity of the sample and therefore limits the generalisations that can be made from the study to the target population.
3. The limited research time to collect all responses is a limitation in the study.

1.7 Chapter Outline

In Chapter One the motivations for this research, the objectives, the significance and limitations of the research were set out.

A literature review is undertaken in Chapter Two, in order to understand the many facets of conflict management and how they would be applicable to this study.

Firstly, conflict is defined and differentiated from related phenomenon in construction such as claims and disputes. The literature review also delves into the emergence and development of the conflict phenomenon, both generally as a human behaviour and more specifically in construction as this relates to the study's aim.

The beliefs that impact the emergence of conflict, such as superiority, injustice, vulnerability, distrust and helplessness are discussed as they relate to individual and group conflict scenarios.

Sources of conflict in construction are identified, such as project priorities, cost, schedule overruns and personality incompatibilities, and other origins of conflict are put forward including contractual errors and omissions in documentation, unforeseen ground conditions or changes in stakeholders during the execution phase of the project.

How conflict may develop because of the inevitable consequence of changes during a construction project if the variations amount to real or even perceived losses for any of the participating parties.

Conflict is also classified by a number of different typologies, such as substantive and affective conflict, as well as differentiating between organisational and interpersonal

conflict. Further classification of conflict, divides conflict into one of three conflict divisions: Relationship, task and process conflict. Conflict can also be regarded in varying levels according to the number and relative arrangement of the conflict parties, both interpersonally and intra-organisationally.

Most importantly, conflict is either regarded as functional or dysfunctional, dependent on the net outcome of the dispute resolution process. Constructive conflict is regarded as functional if it drives forward towards positive outcomes and dysfunctional if it breaks down relationships and erodes the value derived from a project's execution. Finally the effects of conflict on working relationships is also examined, particularly the impact that it has in the management people on construction projects.

Chapter Three describes the research design and methodology used to carry out this study. A descriptive and primarily qualitative approach was adopted for the study. The Research Methodology chapter discusses firstly the aim of the study, which was to establish the prevalence of conflict scenarios within the construction management sector in South Africa. In this chapter the study is further justified with the research objectives explained and the scope of the study delimited. The intended target population and location of participants is detailed and the philosophical paradigm within which the research was design is discussed. The mixed methodology used (primarily qualitative with quantitative data traits), for this research is explained using five philosophical assumptions that shape research choices (Creswell, 2009). The considerations for developing the questionnaire are discussed as well as the steps taken to pre-test the research instrument. Lastly Chapter Three covers the sampling technique as well as data collection method used for the online questionnaire.

The data gathered had characteristics that allowed it to be represented numerically and graphically and Chapter Four presents these findings, including discussions on the data gathered during the fieldwork phase of this study.

Finally, Chapter Five provides a discussion of the findings as they relate to the research objectives, including recommendations based on the findings. The limitations of this study as well as opportunities for further research are also addressed. A final concluding statement is then made about this study.

1.8 Summary

It is expected that this study will provide construction project management practitioners with some insights into the prevalence of conflict scenarios in their projects and substantiate the need for better skills development in conflict management. This ultimately should improve the outcomes of conflicts and disputes in construction projects and lead to improved cooperation and project success. In order to understand the many facets of conflict management and how they would be applicable to this study, a literature review was undertaken into the emergence, causation, typology, and management of conflict.

Chapter Two: Literature Review

2.1 Introduction to Conflict and Dispute

The construction industry is generally considered adversarial and prone to conflict. It is also widely accepted that the conflict and disputes arising on construction projects have a negative impact of the outcomes that stakeholders to a project can expect. The following literature review addresses the concept of conflict. Firstly defining conflict and then exploring the emergence of conflict in work-groups, with a focus on the ways in which construction projects are impacted by the phenomenon of conflict and dispute.

2.2 Conflict Defined

Generally, the word 'conflict' and its synonym 'dispute', see rather infrequent use in the construction industry, especially during formal communications between parties. This is most likely due to the provocative nature of the words and their ability to set parties on the warpath even by their mere presence in correspondence. The word itself and the concept of conflict remains a significant point of focus and discussion in academic publications and in the analysis of disputes and the resolution processes utilised to settle disputes (Cheung, et al., 2006), (Gardener and Simmons, 1995), (Gebken, 2006), (Kumaraswamy, et al., 2004).

Conflict appears to be inevitable in almost every societal setting and can be observed as either positive or negative based on the long-term outcome for society as a whole (Gebken, 2006). Similarly, in the construction industry conflict should not only ever be defined as a dysfunctional feature of project management processes (Leung, et al., 2005). Moderate levels of conflict can indeed improve satisfaction levels in a working environment, up to the point where the conflict has escalated to such an extent that it becomes dysfunctional, then causing satisfaction to diminish (Hughes, 1994). Price and Chahal (2006) made further valuable observations about the underlying assumptions of conflict theory, namely:

- Competition, rather than consensus, is a key human trait
- Structural inequalities in power and reward exist in all social structures
- Revolutionary change is often the result of conflict from competing interests rather than through adaptation.

These assumptions are useful later for integrating the definitions of conflict and an understanding of conflict theory. The first two assumptions are consistent with the idea that conflict is inevitable and present in all organisation settings. Whilst the third assumption aligns with the concept that, conflict exists on a sliding scale, and at each polar end:

- Conflict can be constructive and beneficial to a point, or
- Conflict can be destructive and dysfunctional if displaced, misplaced, or misdirected.

The construction industry would most likely try to avoid the broad and widespread use of the term 'conflict' as far as possible, due to the negative associations that may be inferred from it. However it appears there may still be a requirement for a defined term describing the competitive human trait exhibited in organisational settings (Price and Chahal, 2006), which takes place not only between individuals, but also between groups and between organisations. This trait is also sometimes evident in situations where individuals and organisations are at odds with one another because of differing goals.

Thomas (1992) describes conflict in terms of the frustration experienced by parties. For Thomas (1992, p. 689), conflict may arise "when one party or individual perceives that one or more others have frustrated or about to frustrate a major concern of theirs". This is indeed very similar to the definition put forward by Wall and Callister (1995, p. 517): "a process in which one party perceives that its interests are being opposed or negatively affected by another party"

Conflict has also been expressed as the battle between two or more mutually dependent parties, who through the lenses of mismatched objectives, scarcity of resources and perhaps the interference of outside parties, are being prevented from achieving their own goals (Wilmot and Hocker, 2010).

What is notable about both the conflict definitions developed by the authors Thomas (1992), Wall and Callister (1995) and Wilmot and Hocker (2010) is that in all three instances they define conflict utilising 'perception' as a key concept.

For Mba (2013) the word conflict brings up ideas of antagonism, struggle, opposition, and threat, all acting against efforts to cooperate. Not all conflicts necessarily take

these forms, and in construction, most conflict comes from a disagreement that needs to be settled or at least a frustration that needs to be heard. In the end, unanswered needs and desires, ongoing disagreements and the persistent obstruction of ideas, leads to a change of attitude, a shift in feelings and the hardening of the perceptions towards each other.

In order to remove the negative associations with the word and downplay the emotional nature of 'conflict' a few proposals have suggested using alternative terms. One such alternative is 'disagreement', which in Australia finds use in both the New South Wales Contract Dispute Resolution Guideline and the GC21 Standard Form Procurement Contract. Given the right definition, disagreement may indeed be the most appropriate alternative: a robust discussion and a cooperative effort to resolve the 'frustration' of a major concern. Referring to the Merriam-Webster (2015) definitions for frustration and disagreement directs that this may also better align with the escalating nature of the frustrations into disagreements as put forward by Thomas (1992):

frustration

: a feeling of anger or annoyance caused by being unable to do something : the state of being frustrated

: a deep chronic sense or state of insecurity and dissatisfaction arising from unresolved problems or unfulfilled needs

: the act of preventing the success of something : the act of frustrating something

disagreement

: failure to agree

: a difference of opinion : an argument caused by people having different opinions about something

: state of being different or unlike

This then leaves the term 'conflict' available for use as a stronger noun to convey the final escalation of a disagreement, fitting with the Merriam-Webster definition for conflict:

conflict

: strong disagreement between people, groups, etc., that results in often angry argument

: a difference that prevents agreement : disagreement between ideas, feelings, etc.

: competitive or opposing action of incompatibles : antagonistic state or action (as of divergent ideas, interests, or persons)

As observed by authors Fenn, et al. (1997), there are principally the two academic viewpoints on conflict: one treating conflict and dispute as a pathological state and trying to understand its causes and treatment; and the second that accepts conflict as inevitable and rather seeks to study the behaviours associated with it.

Conflict in any event is firmly embedded in the academic literature. It generally is viewed (**Figure 2.1**) as the starting point for any discussion or examination of disputes and dispute resolution processes.

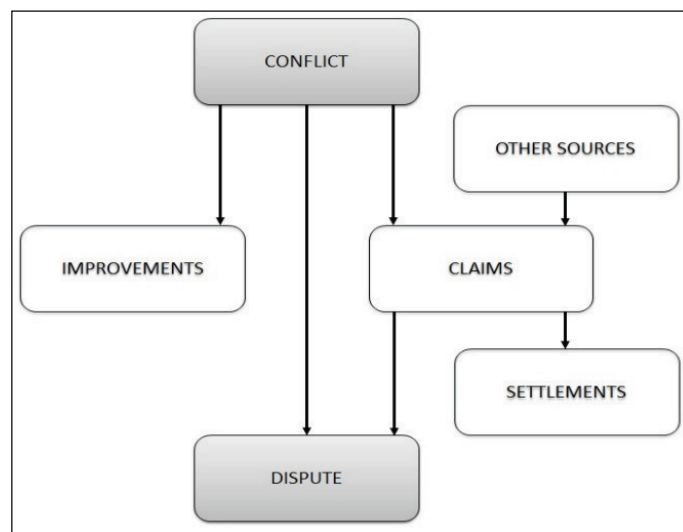


Figure 2.1 Conceptual Model of Conflict and Dispute

(Source: Kumaraswamy, M. M., 1997. Conflicts, Claims and Disputes. *Engineering, Construction and Architectural Management*, Volume 4(2), pp. 95-111.)

Rahim (2010) notes that there are common features in the various definitions of conflict as reviewed by Baron (1997), and these are:

- Incompatible interest between parties in a balanced utility state,
- Idea held by each side that the other is willing to or has taken action against them,
- Justification of this perception by some actual actions already taken,
- Previous interactions have pushed forward the progression of the conflict.

Rahim (2010) does point out that a topic of debate remains as to whether conflict is to be considered as a situation or rather a type of behaviour. Although he does not provide a resolution on this matter, he does propose a definition for conflict as "an interactive process manifested in incompatibility, disagreement, or dissonance within or between social entities."

At first glance, it appears that Rahim (2010) indeed does consider conflict as a situational manifestation in his definition; however, he also goes further to note that a conflict may be restricted to a lone person, who has mixed and conflicting feelings within himself. This intrapersonal conflict can then rather be considered as a behavioural manifestation.

Nicholson (1992) defines conflict as an activity that takes place when individuals or groups want to perform actions that are contradictory with each other's wishes, needs, or commitments. Nicholson further describes conflict as a growing discord, viewing this as a common prerequisite along with the active efforts from both parties to do damage to each other. He calls this conflict behaviour. Rahim (2010) also supports this escalating view of conflict, describing some appearances of conflict behaviour as commencing with a discord, followed by verbal mistreatment, and then interfering.

There appears to be no agreed single definition of conflict, however Putnam and Poole (1987) did manage to identify common factors involved in nearly all definitions for conflict in organisational settings:

- A minimum of two self-determinant parties are involved,
- The parties recognize some irreconcilable issue between them, and
- The parties have some interaction with each other.

This definition seems to be broad enough to allow for nearly all interpretations of the meaning of conflict as found in organisations, it however possibly falls short of emphasising any difference between conflict and disagreement.

2.3 Emergence and Development of Conflict

Conflict can occur between individuals, groups, and organisations. Each represents a party to the conflict: For example, individuals may quarrel over some disagreement where each party is but only that one person, however labour strikes involve groups of people holding collective views and the parties are these collectives. Similarly, in sport, conflict may be between individuals (e.g. boxing) or between groups or teams (e.g. soccer). Organisations represent a form of group or collective, and usually an organisation is only one party to a conflict; however, several individuals may represent it.

In earlier work, Rahim (2002) attempted to describe the causes of conflict between parties, for example when:

- It is necessary for one party to engage in an activity that differs from their own requirements or desires.
- One party holds behavioural preferences, at odds with another party's desire to carry out their own preferences.
- One party desires some sought-after resource that is in limited supply, but that is mutually desirable to all other parties as well and the limited supply cannot satisfy all the parties fully.
- One party has opinions, skills, values, and objectives that are important in shaping their actions, but are interpreted by the other parties to exclude any consideration for their own opinions, skills, values, and objectives.
- Two parties have some joint action to take, however they hold differing behavioural preferences regarding these actions.
- Interdependence between two parties, where the satisfaction of their own goals relies on the performance of the other party.

However, other authors have also noted that conflict is not only to be regarded in the active sense, but also in its passive nature. For example, it is not difficult for most of people to recall an uncomfortable peer group experience, where the negative interaction was against the individual (John, 2000). In such situations, 'avoidance' is often the preferred strategy over actively engaging in conflict (Belbin, 1993). Actively engaging in conflict and passively attempting to avoid it, both place tension on relationships and are draining experiences for the individuals concerned. Ferguson (1999) felt that conflict within any kind of social organisation is inescapable and it is up to managers to cultivate strategies for actively with dealing conflict, rather than simply avoid it. Strategies that aim to reduce the potential for conflict escalation are preferred and should include early engagement and intervention to resolve the initial, uncomfortable stages of disagreements in order to manage the stressfulness of conflict.

Kellet (2007) explains that conflict can come about through inaccurate perceptions, misattribution of causes, lack of coordinated meaning and definition, or selfish strategies. Kellet (2007) goes on to discuss how conflict is then either, displaced, misplaced or misdirected from the issue of the dispute or the other persons involved in the conflict. Very quickly then the conflict can become complex and even escalate to becoming dysfunctional. This could be the result of the participants not expressing the systemic or real conflict issue, or may indeed not even be in conflict over the same issue as one another.

2.4 Five Beliefs that Impact the Emergence of Conflict

Belief systems can have a considerable effect on the emergence of conflict and differences between parties on these matters may trigger or constrain conflict between them (Eidelson and Eidelson, 2003). In their review of available literature, the authors noted five belief domains that stood out in conflict emergence: Superiority, injustice, vulnerability, distrust, and helplessness. They discussed these domains not only as individually held beliefs, but also in terms of their influence on conflict as group level views (**Table 2.1** Eidelson and Eidelson's Five Conflict Belief Domains).

Table 2.1 Five Conflict Belief Domains (adapted from Eidelson and Eidelson, 2003, p. 182-192)

Belief Domain	Individual Level	Group Level
Superiority	Associated with individual attitudes including a sense of specialness, deservedness, and entitlement. Essentially the belief that the individual self is better than another in some important way.	A group shared belief that they are morally superior, have been chosen, or are entitled to some special destiny.
Injustice	The perception of mistreatment by others or by the world at large. Can lead to an individual identifying something as unfair, which is actually simply unfortunate, and then retaliate inappropriately.	Reflects a group's belief that it has justifiable cause for complaint against another faction. A powerful mind-set that can activate violent collective rebellions, particularly when shared perceptions of injustice heighten the identification and allegiance individuals feel towards their group. Particularly common across cultural divides when there are different definitions for justice, and dissimilar norms for how to achieve it.
Vulnerability	Exists out of a person's conviction that he or she is forever living in harm's way. Involves a person's perception of himself as subject to internal or external threats over which control is missing, or insufficient to afford a sense of safety.	Has parallels to individual vulnerability worldview. Fear of the future are the most common cause of ethnic conflicts and often result in spiralling violence. Involves catastrophic thinking as a group's imagined worst case scenario takes on the unstoppable logic of inevitability.
Distrust	Focused on alleged aggression and malevolent intent of others. The belief that others will harm, mistreat, disgrace, deceive, lie, or take advantage usually involving the view that hurt is deliberate or the result of disregard. Consistent assumptions about ill intentions of others prevent truly collaborative relationships.	An extension of individual-level distrust to larger groups. Focused on the perceptions of outgroups and revolves around beliefs that the other group is untrustworthy and harbours malevolent intent toward the in-group.
Helplessness	Conviction that even carefully planned and executed actions will fail to produce desired outcomes. A person may perceive herself as missing the talent required to reach a goal. Tends to be self-perpetuating because it diminishes motivation, regardless of whether it is distorted perception or objective reality.	A collective mind-set of powerlessness and dependency. It reflects a groups assessments, not only of its capabilities, but also of whether the environment is rich or poor in opportunities.

Conflict has become endemic in human organisations, which is somewhat of a paradox, given the quantum of effort and resources that are drained from organisations in mitigating and resolving conflict (Okoni and Okoni, 2003).

2.5 Conflict in Construction

Perhaps Verma (1998) had already identified the more important causes of conflict in projects, when he noted lack of respect, breakdown in communication, defective listening skills and perception differences, as some of the causes that can lead to serious communication problems and ultimately conflict. The extent to which someone engages in conflict may be the consequence of private interests being incoherent with a concern for others. However, within the construction process there should also be a concern for the task or project, which drives the interests of an individual. Wallace (1987) identified that conflict develops in multidisciplinary construction project teams as the individual members try to realise their own personal objectives, attempting to force them on others, by changing other people's beliefs or actions.

Unmanaged expectations may also lead to conflict, such as with clients who are unfamiliar with the construction process. The need to manage changes emerging from unknowns during construction is where clients often need to make decisions and therefore require unbiased and balanced information. This information is presented from the different professionals appointed by the client, it is often inconsistent, and may be confusing. Each professional will potentially offer the same advice but focus on aspects closely linked either with their professional experience or on solutions that promote their own interests (Jameson, 1999).

Research by Gardiner and Simmons (1992) showed that conflict was present during all the phases of a construction development. In their study, the reasons for the appearance of conflict included: appalling project briefings and coordination, a lack of familiarity in dealing with unforeseen situations, difficulties in achieving consensus, failure to consider other stakeholders opinions, design errors and omissions, failure of designs to meet specifications, construction not meeting the designed requirements, challenges obtaining official approvals, clients having difficulty interpreting drawings, quality of work being below expectation, stretching out of project durations and budget overruns, serviceability issues with structures and buildings, organisational internal politics, conflicts in loyalty, mismatched levels of change control, sidelining of proper points of contact, differing priorities for project success, complexity in management of professional interfaces and the poor use of, or deliberate misuse of standard contract documents.

The conflict scenarios that Gardiner and Simmons (1992) identified, focused principally on construction tasks that would be undertaken by several parties, and the emergence of conflict is much diversified across these differing situations. A prominent feature however in their study was the emergence of conflict from the differing priorities and agendas of the individuals and organisations.

Moura and Teixeira (2009) provide other examples of scenarios in which a construction project may erupt with conflict, such as between the contractor and the client over shortcomings in quality and unwarranted costs, or between the public, the project sponsor and the contractor for excessive noise levels or perhaps between the contractor and the site's neighbouring tenants about unsightly building rubble and ongoing traffic congestion.

Thamhain and Wilemon (1975) and Keszobom (1992) had already earlier identified the following sources of conflict in a construction project:

- project priorities
- administrative procedures
- technical opinions and performance trade-offs
- manpower resources
- cost
- schedule
- personality
- communication
- reward structure
- performance appraisal
- politics
- leadership
- ambiguous roles
- unresolved prior conflicts

These sources of conflict are present in nearly all construction projects, and can usually be seen in the claims contractors make against owners, developers, and designers.

Later Edum-Fotwe et al. (2001) identified the following four origins of conflict in construction:

- contract documents containing errors, defects and omissions,
- miscalculating the true cost of the project at the beginning,
- changing conditions (from those anticipated), and
- changing stakeholders involved during the project

Sambasivan and Soon (2007) categorized the causes of conflict in the construction industry into three groups, based on the primary party responsible. These were either client-owner related factors, consultant related factors or contractor related factors:

Table 2.2 Primary Responsible Party for Conflict Cause (adapted from Sambasivan and Soon, 2007)

Client-owner	Consultant	Contractor
<ul style="list-style-type: none"> • improper arrangement of funds • late payments • owner interference • slow process of decision making and approval • unrealistic time durations • frequent design changes 	<ul style="list-style-type: none"> • delay in approval of variation statements • discrepancies between contract documents • delayed preparation and approval of drawings • quality assurance and waiting time for approval of tests and inspections 	<ul style="list-style-type: none"> • poor site management • improper construction methods • improper planning • errors during construction • inadequate experience of the contractor • level of labour and staff hired • lack of procurement schedules • organisational structure

2.6 Conflict Emergence as a Consequence of Change

Loosemore (1996) argued that change during the construction process frequently leads to conflict. The resulting additional work may cause conflict to emerge, as the parties avoid undertaking the variation work (Wallace, 1987).

Interestingly Gardiner and Simmons (1992) also found that conflict might lead to change. The conflict-change process may then become cyclic. A characteristic of successful conflict management processes is in fact repeated conflict-change cycles (Emmitt and Gorse, 2003). This may be explained from the perspective that for the change process to be successful, parties must reach consensus and satisfaction with

the resulting variations, in order that they are able to carry on with the working relationship.

Totterdill (1997) identified the following escalating sequence of events as necessary for a conflict to develop into a specific dispute:

1. Something happened - such as a site instruction, a technical query, an unanticipated natural event, or some other problem.
2. Someone suffered - either incurring added costs or experiencing a delay that would later result in further costs or penalties.
3. Compensation was sought - the party who suffered or believed they had suffered, requested compensation for the loss.
4. The claim for compensation was rejected - the party that suffered the loss did not accept the denial of the claim.

The first step in this sequence can be seen in the many ways claims arise from design errors, public stakeholders objections when they are not consulted, contractors encountering physical challenges that the designs did not cater for and changes to the scope of projects as client requirements develop. These and numerous other situations play out in the construction environment on almost every single project.

These 'happenings' lead to variations, safety problems and sometimes inconvenience to the public, all of which usually result in someone suffering some form of loss, often experienced as cost overruns and delays, thus satisfying the second step in Totterdill's sequence.

Naturally, the party suffering the loss seeks to recover these losses and makes a claim against the other party, usually in terms of the contractual agreement between them. This restitution typically is sought as monetary compensation for the losses suffered and often includes some contractual adjustment to avoid any future penalty that may be imposed due to the event.

The final step in Totterdill's sequence typically arises when this claim is denied. Usually claims are denied because the parties have differing and at times opposing

priorities and objectives (political, commercial, and cultural) and acceptance of the claim would be in conflict with their own interests.

2.7 Classifying Conflict

2.7.1 Substantive versus Affective Conflict

The classification of conflict begins with distinguishing between substantive conflict (also called performance, task, issue, or active conflict) and affective conflict (also called relationship conflict).

Substantive conflict encompasses the range of disagreements among members of a group concerning the content of the tasks or issues at hand or even the performance of the task itself (DeChurch and Marks, 2001; Jehn, 1995). It is also alternatively referred to as performance, task, issue, or even active conflict. This type of conflict typically occurs when multiple members of a group (individuals or entities) are unable to recognise and agree on a resolution to some assignment or issue, due to differences in viewpoints, ideas, and opinions (Jehn, 1995; Rahim, 2002).

In comparison, affective conflict has to do with the interpersonal relationships, and sometimes irreconcilable differences, that are not directly connected to the group's primary purpose (Behfar, et al., 2008).

Whilst substantive and affective conflict are interrelated (De Dreu and Weingart, 2003), the focus of substantive conflict on the objectives does make it preferable to affective conflict which focuses on issues external to the group objectives.

Differentiating between affective and cognitive conflict, Amason and Sapienza (1997) describe the latter as oriented around task related matters, arising from differences in point of view or judgment. Affective conflict meanwhile emerges from personal differences and disputes, and is typically experienced emotionally.

Jowett (2007) differentiates between content conflict and relational conflict, in a similar way to substantive and affective conflict. She describes content conflict as individuals disagreeing about how to transact over a particular problem, whilst she views relational conflict as individuals disagreeing about one another. She notes that content conflict can be beneficial, with increased motivation and stimulated discussion about the issue. Relational conflict however decreases group member performance, loyalty,

satisfaction, and commitment; ultimately leading to individuals becoming irritable, negative, and suspicious.

2.7.2 Divisions of Conflict

Jehn and Mannix (2001) have suggested that conflicts be divided into three types: relationship, task, and process types. These divisions of conflict are somewhat similar to the classifications of conflict (substantive vs. affective or content vs. relational).

- Relationship conflict: is described as arising from the interpersonal incompatibilities of group members (similar to affective or relational conflict).

Different however to the previous classifications, Jehn and Mannix (2001) further differentiate what would be substantive or content conflict into two further separate divisions:

- Task conflict: associated to disagreements in perceptions about a task, and
- Process conflict: referring to disagreement over a group's approach to a task or course of action.

The authors note, making reliance on their additional division of conflict, that although relationship and process conflict are indeed harmful, task conflict is in fact found to be beneficial (Jehn and Mannix, 2001). This is because it encourages diversified opinions, provided these opinions do not develop into process or relationship conflict.

In addition, task conflict benefits group decision quality by encouraging greater understanding of the issues being discussed. This in turn results in improved decision making for the group utilizing task conflict. Another important benefit from task conflict is the affective acceptance of the group's decisions, which means the group works better together as there is a greater deal of satisfaction with the group decisions and therefore a desire to stay within the group (Peterson and Simons, 2000).

2.7.3 Organisational and Interpersonal Conflict

Conflict in an organisational setting can be divided into either intra-organisational or inter-organisational conflict. This is irrespective of whether the conflict is classified as substantive or affective.

When two or more organisations compete against one another this is called inter-organisational conflict, whilst intra-organisational conflict occurs within an organisation

and can be further broken down based on its scope. For example, it may be between departments, work teams, or individuals.

Other classifications of conflict in organisational settings are interpersonal, intragroup, and intergroup conflicts. Interpersonal conflict is the conflict between two or more individuals. Interpersonal conflict is further divided into intragroup and intergroup conflicts. Intragroup personal conflict occurs amongst members of the same group, whilst intergroup personal conflict occurs between individuals who are members of different groups (Rahim, 2002).

2.7.4 Levels of Conflict

Hellriegel and Slocum (1986) arranged their observations into a structure of five levels of conflict: intra-personal, inter-personal, intra-group, inter-group, and intra-organisational, which effectively captures the polar classifications described by others into a more unified framework:

1) Intra-personal Conflict

Intra-personal conflicts occur on an individual basis, when a decision needs to be taken and the outcome has conflicting positive and negative consequences. This level of conflict is experienced in day-to-day activities and is often known as inner conflict.

2) Inter-personal Conflict

The conflict that occurs between individuals is called inter-personal conflict. It is characterised by divergent or opposite goals, differing attitudes, values or behaviours, and differences in personality, beliefs and ethics.

3) Intra-group Conflict

Intra-group conflict shares similar characteristics with inter-personal conflict; however, it occurs when several individuals hold a shared position in the conflict, but the conflict is contained within the group.

4) Inter-group Conflict

Inter-group conflict differs from intra-group conflict in that it occurs between groups of people. Often the conflict is based on the individuals in the group identifying with each other because of race, religion, ethnicity, or levels of decision-making. The groups

could be formal or informal. In the construction environment, grouping typically falls along stakeholder lines (contractor, consultant, client etc.).

5) Intra-organisational Conflict

Intra-organisational conflict occurs between parties (groups and individuals) within an organisation. It usually relates to the structure of the organisation, delegation of formal authority, exercise of that authority and even job design. In construction projects, this intra-organisational conflict takes place within the stakeholder organisations and can be problematic in project settings as the stakeholder no longer holds a single viewpoint on the project issues, but becomes like a two-headed dragon.

2.8 Functional versus Dysfunctional Conflict

Although conflict is rarely viewed as a constructive condition, in certain contexts managed levels of conflict can be regarded beneficial, facilitating consideration, acceptance, learning, and efficiency (Jowett, 2007).

The two principal academic viewpoints on conflict postulated by Fenn, et al. (1997), treat conflict and dispute as either a pathological state, looking at its causes and treatment; or an acceptance that conflict is unavoidable and studies the behaviours related to it.

In the context of construction projects conflict may in fact, apart from being inescapable, actually be a welcome phenomenon. Janis (1971) put forward that conflict could be helpful in group settings and decision-making forums to avoid what he labelled "groupthink."

Gardiner and Simmons (1992) defined conflict as:

"any divergence of interest, objectives or priorities between individuals, groups or organisations, or non-conformance to requirements of a task, activity or process."

This definition of conflict reveals how conflict may yield positive outcomes during the course of a construction project.

Al-Tabtabai and Thomas (2004) cite Thamhain and Wilmon (1975) to support their own view that conflict is dynamic, continually developing, and may indeed be a perpetual process. Rosenhead (2006) adds further support to the idea of working

environment entirely free of conflict being not only unachievable, but also not ideal, citing principles from complexity theory to demonstrate this. Similarly, Cheung and Yiu (Cheung, et al., 2006) examined the use of catastrophe theory in their consideration of the 'tipping point' between tension and behavioural flexibility as a means of determining when conflict ceases to be an inspiring force and becomes counter-productive and dysfunctional in an organisation.

2.8.1 Constructive Conflict

Functional conflict is the result of obstacles, discord, and dissension that stem from tasks, procedures, and operations. Typically, these conflicts involve detailed discussions of the relevant issues, helping to expose problems, identify risks, generate ideas and solutions, and develop a degree of common understanding around the issue at conflict (Emmitt and Gorse, 2003). If parties to functional conflict seek to resolve the issue, benefits may be achieved from working through the conflict and it may even result in the strengthening of relationships (Loosemore, 1996). Functional conflict and the resulting tension could also threaten relationships if not defused and build up to become dysfunctional (Gorse, 2003).

2.8.2 Destructive Conflict

Some conflicts seem to have no rational purpose and may even be considered unnatural. A participant has entered the conflict situation with ill intent and personal insults, self-boosting criticism and thoughtless comments are typical of dysfunctional conflict. O'Neill (2002) provides some indicators that a conflict situation has become dysfunctional:

- conflict becomes disparaging;
- conflict escalates with each meeting rather than decreasing;
- communications take place in one direction only;
- perspectives become ingrained and will no longer accommodate other views;
- the conflict becomes a critical problem – incurring costs and delaying other activities.

The success of construction projects relies on effective collaboration between multidisciplinary teams, and because discord is to be expected, it is prudent for project managers to develop appropriate mechanisms for dealing with conflict.

2.9 Effects of Conflict in Construction

Dutton and Walton (1969) found that conflict results in a lowering of trust and respect, which has adverse effects on performance. Conflict that is poorly managed reduces an individual's willingness to contribute and participate in a task. Verma (1998) supports the view that conflict is unavoidable and is a natural phenomenon, adding that positive or negative outcomes are determined not by the origin of the conflict, but rather the response to it. Kassab, et al. (2010) hold the position that conflict remains an important challenge in the construction industry, and leads to project failures, litigation and in the worst cases outright abandonment of the project.

When there is conflict amongst the project team members or workers on a site it can cause frustration that manifests as a breakdown in communication, pointless aggravation, and even aggressive behaviour. Poorly managed conflict can hinder the accomplishment of project goals due to imposed stress from hostility and obstructiveness.

Yiu and Cheung (2006) noted that disagreements could lead to an event or a series of circumstances that result in one or both parties having an unresolved grievance against the other. Should the ensuing conflict get to the point of dispute, then the progress of the project will be mired by bureaucratic conformity as parties seek to protect contractual righteousness and thereby the project will potentially suffer significant delay. However, dispute only develops when conflict is mismanaged and not usefully directed. Dispute is therefore a needless, dysfunctional state. This is why conflict management is so important, and it is necessary to try to resolve any grievance between parties before it escalates to dispute. Hellard (in Fenn and Gameson, 2003) in fact contends that construction has a built-in formula for conflict; however, he notes, "good management is the preventive medicine of dispute."

2.10 Conflict Management

Conflict management is the practice of curtailing the harmful consequences of conflict situations while promoting the positive or beneficial characteristics of conflict. One of

the aims of conflict management is therefore to improve group learning and decision-making. This includes increasing group effectiveness and performance in organisational settings (Rahim, 2010).

Many management models employ the principle that individuals perform their duties with a level of concern for themselves and a level of concern for their product. One such management model is the Blake and Mouton Managerial Grid Model (Blake and Mouton, 1964) (**Figure 2.2** The Managerial Grid).

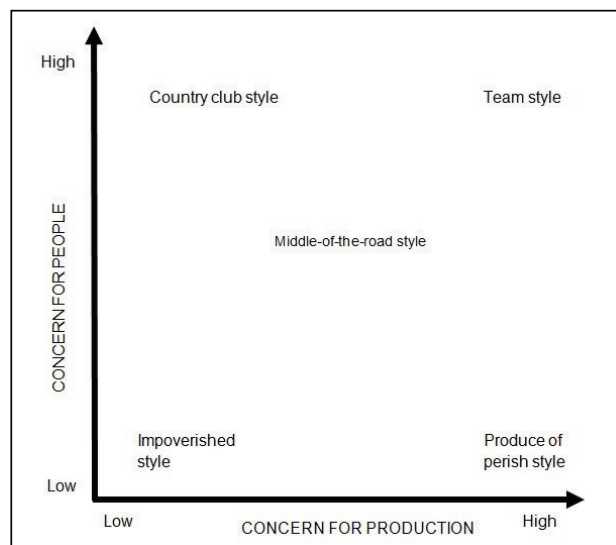


Figure 2.2 The Managerial Grid

(Source: Blake, R.R. and Mouton J.S. 1964 *The Managerial Grid: The Key to Leadership Excellence*. Houston, Gulf Publishing Co.)

The Blake and Mouton Grid Model is represented as a grid with two attitudinal dimensions forming the x- and y-axis respectively. *Concern for Production* (attitude toward achieving results) was plotted on the x-axis and *Concern for People* (thoughtfulness for others) was plotted on the y-axis. Blake and Mouton then mapped five core leadership approaches based on various combinations of the two attitudinal dimensions as seen in **Figure 2.2** The Managerial Grid.

Pruitt and Rubin (1986) first proposed that the grid concept utilised by Blake and Mouton, could be modified for conflict management by substituting 'Concern for Product' with the dimension 'Level of Assertiveness' and 'Concern for Others' with 'Level of Cooperation' (**Figure 2.3** Conflict Handling Styles).

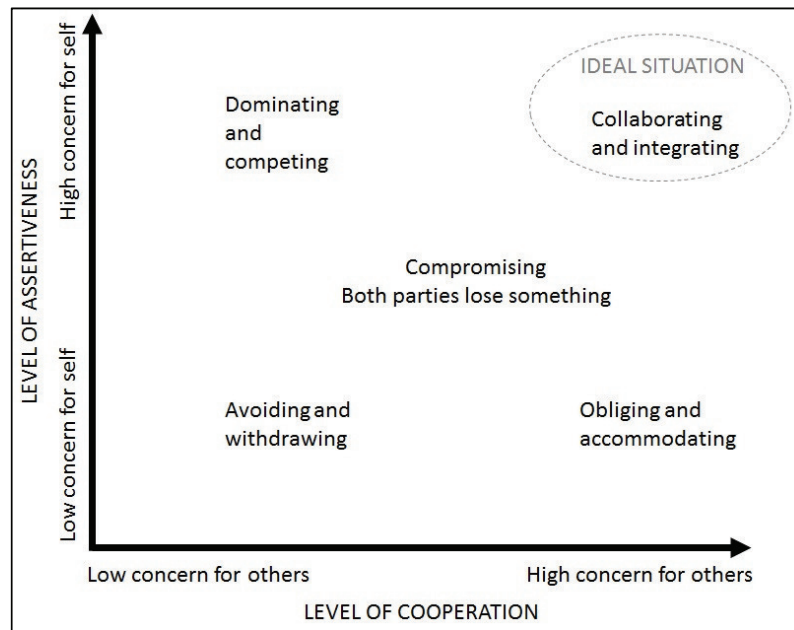


Figure 2.3 Conflict Handling Styles

(Source: Gorse, C.A., 2003. *Conflict and Conflict Management in Construction*. Leeds, UK, Association of Researchers in Construction Management, pp. 173-182.)

Using this modified grid and two simple dimensions, a variety of strategies for conflict management were characterized by Pruitt and Rubin (1986), and later adapted by Gorse (2003) as shown in **Figure 2.3** Conflict Handling Styles.

O'Neill (2002) argued that each style of conflict management does indeed have a useful purpose; however, parties involved should always think about how the result might affect the long-term working relationships between them. This may be a significant consideration in short-term one off endeavours, where the risk of ruined working relationships affecting future work together is minimal. In such instances, the most beneficial strategy may be the outright domination of discussions to attempt to secure as many benefits from the relationship as possible. However where future working relationships are valued, such a strategy may only result in disrepute, leading to omission from consideration for future projects or possibly even to lead legal dispute.

Construction project managers must maintain relationships with clients and supply chain managers; they therefore must balance a concern for their own interests with those of others. In negotiations, it requires that they push towards a position in which

all parties benefit. The goal is to find an ideal situation, using collaboration and integration of all the parties' objectives.

Some authors go so far as to say that construction professionals should be encouraged to engage in functional conflict, and that broad condemnation of conflict in construction, may hold opportunity-costs for clients and industry professionals. (Loosemore, et al., 2000). In their research, which focused on the conflicts between the contractor and architect, as well as between the contractor and subcontractor, Loosemore, et al. (2000) found that contractors were receptive to functional conflict, but this was not as strongly as anticipated. Mostly conflict was managed by exploring alternative solutions and considering different perspectives. By encouraging participants to co-operate and actively discuss issues, it was believed that win-win solutions could be found. In the study Loosemore, et al. (2000) also found that a significant proportion of the conflict handling styles employed by construction managers were not considered to offer any of the positive benefits associated with functional conflict. By compromising and obliging, the construction managers were restricting the potential to find mutually beneficial solutions. In addition, whilst construction site managers are typically considered uncooperative and lacking concern for others, the dominating style of conflict management was in fact the least used.

The behaviours observed by Loosemore, et al., (2000) are not exceptional in work-groups. Farmer and Roth (1998) examined a range of student work-groups to find the most prolific conflict management strategies. Collaboration was found to be the most commonly used strategy. This was followed in order by, accommodation, compromise, competing and finally avoiding.

2.11 Conflict Management Development

Kaufman (2011) suggests that there are benefits to offering training on conflict management related topics. His review of studies showed there to be changes in perception and attitude toward conflict. These changes then lead naturally to behavioural changes. Kaufmann (2011) believes that this should now be the direction of future curriculum development in the field.

Cain and Du Plessis (2013) found in their study that relationships have the potential to improve because of dealing affably with conflict. They found that if dealt with in a professional manner, the issues raised during conflict could improve understanding between individuals. Greater understanding was also found to link to personal growth mainly because of dealing with conflict and exposure to it in the workplace. This provides opportunities to become a stronger person, through self-reflection and viewing situations from different perspectives (Cain and du Plessis, 2013).

2.12 Conflict Resolution

Conflict may be considered as resolved when the discrepancy between the wants and the behaviour of parties is settled (Nicholson, 1992). An essential part of the process of conflict resolution is negotiation (Jowett, 2007). Any attempt to design a process that incorporates functional conflict, must allow for opportunities to negotiate as a means of closing the gap between the parties, so that further actions by the group are as consistent as possible with the wishes of the parties to the conflict.

Negotiations in conflict scenarios thus take advantage of the fact that conflict is a social process. Individual members of a group taking sides in a debate can exacerbate the conflict. Another method to resolve conflict is mediation.

Using mediation, the dispute is guided by someone who is an outsider to the present dispute. The definition for a mediator is a person who attempts to rectify a conflict between parties by intervening in the conflict as an impartial guide, directing the disputing parties towards developing a resolution (Forsyth, 2009).

Mediation by a third party can open avenues for communication between disputing parties, allowing participants to state their point of view and seek elucidation of the positions of others. By putting a positive light on the reconciliations made thus far, the mediator in a conflict can act as protector of the disputant's pride, and prevent any potential "loss of face" during the process (Forsyth, 2009).

Forsyth (2009) points out three major approaches to mediation:

1) Inquisitorial procedure

Using an inquisitorial procedure, the mediator questions disputants and considers the responses. The mediator then formulates and applies a binding resolution on the

parties. This procedure is the least popular approach to mediation as it allows for bias, particularly with regard to the mediators questioning of the disputants.

2) Arbitration

With arbitration, mediation involves the two disputants putting forward their arguments to the mediator, usually in written heads of argument. The arbitrator then formulates a solution based on the arguments presented, and the parties having agreed prior to the process, accept the mediator's solution as binding.

3) Moot Procedure

A moot mediation requires open deliberations involving the disputants and the mediator about the issues and probable ways of resolving the dispute. However differing from formal and inquisitorial mediation, the mediator's solution cannot be imposed as mandatory on the disputing parties.

2.13 Summary

While the construction industry is generally considered adversarial, some of the research suggests that the way conflict is handled is relatively typical and not abnormal. However, there is considerable room for improving conflict management practices in the construction sector in order to benefit all stakeholders.

There are principally the two academic viewpoints on conflict: one treating conflict and dispute as a pathological state and trying to understand its causes and treatment; and the second that accepts conflict as inevitable and rather seeks to study the behaviours associated with it.

This study assumes the later as the more productive approach, utilising the issues over which conflict arises in construction projects and the behaviours associated with conflict to improve project outcomes. Furthermore, the study also assumes that project organisations should aim to position themselves in a state of bounded instability (constructive functional conflict) rather than in stable equilibrium (conflict free) in order to derive the maximum benefit. This is a proactive approach, rather than reacting to the inevitable conflict that will arise and the aim is to prevent project conflict escalating to dysfunctional states.

Chapter Three: Research Methodology

3.1 Introduction

The aims of this study were to establish the prevalence of conflict situations within the construction project management scenarios and to determine if practitioners would benefit from formal coaching in conflict management either as part of their continuing professional development or as a pre project start-up initiative. To achieve these aims, this study takes the form of descriptive research utilising a quantitative research instrument. A sample population was drawn from construction project management practitioners in South Africa. This included those who are registered with the South African Council for Project and Construction Management Professions (SACPCMP), the Engineering Council of South Africa (ECSA) and Project Management South Africa (PMSA). Because a significant number of experienced construction sector experts are not professionally registered and their input in this study would be equally valuable, the survey was open to unregistered practitioners as well. This chapter describes the research design and methodology assumed to carry out this study.

3.2 Aim of the Study

This study's aims were to establish the pervasiveness of conflict within the construction projects and to determine if professional project management practitioners would derive benefit from formal training and development initiatives in the management of conflict as related to construction projects. This training conceivably may form part of their continuing professional development (CPD) or as a project start-up event.

The findings of this study should be of interest to not only practitioners themselves, but also the construction companies and engineering firms that engage their services. In addition, clients who regularly invest in large capital projects will also benefit from having a better insight into the prevalence of conflict in their projects and the benefits that may arise from having their own team members trained in conflict management skills.

3.3 Participants and Location of the Study

A sample was drawn from practitioners in the South African construction project management field, including quantity surveyors, engineers, architects, construction managers, and project managers. There are 3,640 (2014) registered members on the national register of Construction Management Professionals maintained by the South African Council for Project and Construction Management Professions (SACPCMP). Combined with the Engineering Council of South Africa's 16,423 registered members (ECSA, 2015), the population size for this study is estimated to be a minimum of 20,063 practitioners. Many practitioners however are not registered, as there presently is no prescribed requirement for project managers in the construction sector to be affiliated with any professional body. There are approximately 429,000 people employed in the construction industry (PWC, 2013), however this figure also includes all artisan skill levels and trades. Because of the uncertain population definition, a mixed approach of homogenous opportunity sampling was implemented for its convenience and the ability to bring together people of similar backgrounds and experiences, thus reducing variation and simplifying analysis. Probability sampling methods would not be practical in this instance, as the size of population is not well defined.

For this qualitative study, it is important though that the sample has the characteristics relevant to the research questions. Having taken into consideration the data collection method, using an online survey, and the desire to ensure a high degree of transferability of the findings to the target population, a sample size of 383 individuals was determined to be desirable using the sample size estimation tables in Sekaran and Bougie (2009, p295) and a population size estimated to be greater than 75,000 individuals, but less than 429,000.

3.4 Research Approach

The study was approached with three distinct phases to the research. Firstly, a review of relevant literature was conducted. Followed by the collection of data from respondents and finally the analysis of that data.

The literature review presented in Chapter Two, has dealt with issues related to definition of conflict management, the typology of conflict and also the potential effects, both positive and negative of conflict.

Kumar (2005) describes the research approach or design, as the plan a researcher would adopt in order to conduct their research. As such, it provides a detailed procedural plan of action, which will be taken, to ensure the validity, objectivity and accuracy of the answers to the research questions (Kumar, 2005). McGrath (1982) emphasised similar important factors that needed to be taken account of during research design:

- external validity - ensuring the generalisability of the sample to the population
- internal and construct validity - managing behavioural variables by ensuring precision in the measurement instrument
- realism of context – ensuring the research context reflects reality the construct being investigated

The selected approach for the study had to not only ensure these conditions were met, but also facilitate efficiently achieving the aim and ultimately completing the research (Saunders, 2009 and Quinlan, 2011). Bearing the above research design objectives in mind, this study adopted a primarily qualitative approach, and was descriptive in nature.

3.5 Philosophical and Methodological Paradigms

Christensen and Johnson (2012) hold that research paradigms are the outlooks held by a body of researchers that are rooted in a shared collection of assumptions, concepts, values, and practices.

These become frameworks for organising a discipline of research or thought, with the identifying characteristics, methods and practices, creating preconceived expectations about the nature and approach that will be serve the research objectives (McKerchar, 2008).

Paradigm choices are, according to McKerchar (2008) a reflection of the researcher's world views (ontology) and belief of how knowledge is created (epistemology).

The following five assumptions shape the methodological choices that a researcher will make (Creswell, 2009):

3.5.1 Ontological Assumptions

These relate to the researchers view on the nature of reality, and how concepts and categories in a subject area or domain of investigation relate to each other. Realism views reality as something that exists with defined laws of nature waiting to be described. Critical realism acknowledges the existence of the external reality, but takes into account that the presence of the observer (researcher) as part of that reality must influence it in some way. Relativism assumes that all knowledge is in fact a social reality and exists only through the observers experience and interpretation of it. According to McCartan & Robson (2011) relativist approaches take the view that there are not absolute truths, but rather people have different ways of perceiving the world and that there is no independent external reality, separate from the beliefs and perceptions of those experiencing it. Understanding and knowledge is elicited through the sets of meanings and classifications, which individuals have attached to the world. Qualitative research, as used in this study, is strongly associated with the relativistic approach (McCartan & Robson, 2011).

3.5.2 Epistemological Assumptions

Epistemological assumptions relate to how knowledge can be created, acquired and communicated (Cohen, et al., 2007). Specifically in the research context, these assumptions influence the methods and scope of research, ultimately determining the validity that can be assigned to the newly acquired knowledge. In quantitative research, the researcher is disassociated from the subject being researched, and in qualitative research, the researcher interacts or to some degree influences through questioning bias that which is being researched (Creswell, 2009).

In this study a mixed approach is used when describing the epistemological assumption, as the questionnaire design included questions which were dissociative in design (gender, age, and experience) as well as questions which could have been subject to some bias due to the choice of wording or directed nature of question order and grouping (experiential rating and ranking questions).

3.5.3 Axiological Assumptions

Axiological assumptions explain the role of values, such as ethics, aesthetics or religion, in the researcher's choices during research design. Quantitative research is value-free and unbiased, while qualitative research is value-laden and biased, however qualitative researchers usually make their values known and highlight in the text of their reports that the narratives represent an interpretation and presentation of the author as much as the participant (Creswell, 1994 and Denzin, 1989).

This study has mixed elements of quantitative and qualitative axiological assumptions. The design of the questionnaire allowed for the collection of data in a numerical manner with predetermined response options, thereby removing interpretive bias in the gathering of the responses. However, during the data analysis, a path of analysing and interpreting the data was used to develop an increasingly detailed knowledge of the topic being studied and applied insights into the potential meaning of notable data trends.

3.5.4 Rhetorical Assumptions

Rhetorical assumption relates to the language and style of questioning used to elicit information from the participants. Quantitative research, the language is typically formal and the range of possible responses are predetermined and numerically measurable, while in qualitative research the language is usually more informal and responses may even be open ended.

This study used a formal tone for the research instrument and restricted responses to predetermined ranges and scales. This implies a quantitative design for the rhetorical aspect of this study.

3.5.5 Methodological Assumptions

Methodological assumptions are based on utilising either deductive processes (quantitative research) or inductive processes (qualitative research) (Creswell, 1994). Deductive process uses theory to guide the research, drawing specific inferences applications from general principles or observed phenomena. The inductive process uses empirical observations to direct the development of generalizable theory inferred from specific observations.

3.6 Quantitative Versus Qualitative Methods

Qualitative research attempts to provide “depth and detail” by describing actions, circumstances and interactions between people, objects and events developing an understanding of the study’s topic through detailed description rather than by measurement (Cooper and Schindler, 2006). This is compared to quantitative research, which aims to precisely, if not necessarily accurately, measure a set of variables, such as consumer behaviour, knowledge, opinions, or even attitudes. The objective is to answer questions of how, when, who and where (Cooper and Schindler, 2006) rather than the typically descriptive question such as ‘Why?’

This study adopted a primarily qualitative research design. Qualitative research is frequently much less structured than quantitative research, which may lead to the study missing some relevant information (Cooper and Schindler, 2006).

3.7 Mixed Methodology

During research it is feasible that different mixed strategies are used (qualitative and quantitative) depending on the objectives of their overall design. Provided it is justifiable, this should not pose a concern for researchers (McKerchar, 2008).

A mixed research methodology develops and uses the most appropriate combination of strategies and is dictated by pragmatism. Christensen and Johnson (2012) opined that appropriately mixing qualitative and quantitative methods into a mixed methodology will result in pragmatic knowledge. The challenge though in mixed method design is to develop and conduct the best and most appropriate combination of strategies in to clarify perplexing research questions, particularly those relate to the nature of causal relationships. However, but it may not necessarily provide all the answers or provide the desired certainty, given the complexities of human behaviour (McKerchar, 2008).

This research utilised what is best described as a mixed methodology using the five assumptions that shape the methodological choices proposed by Creswell (2009). The resulting data was mostly descriptive in nature and although it could be reported numerically (quantitatively), the data collected was not suitable for drawing out valid quantitative generalisations about the population.

3.8 Exploratory or Descriptive

This study was descriptive in nature, as it aimed to investigate the perceptions of construction project managers and to determine the proportions of project managers who hold similar perceptions about conflict management. Studies may be embarked upon to test hypotheses or they may be either exploratory or descriptive in nature (Sekaran and Bougie, 2009). Where the research process and phenomenon may be uncertain or the problems to be encountered during the study are not apparent, an exploratory research methodology would be most appropriate (Cooper and Schindler, 2006; Sekaran and Bougie, 2009). Descriptive studies have clearly defined research questions and problem statements, and are usually used to investigate the features of the population in question, measure which portions of a population have specified characteristics and search for associations that might connect otherwise dissimilar variables (Cooper and Schindler, 2006; Sekaran and Bougie, 2009).

3.9 Development of the Instrument

Leedy and Ormrod (2001) recommend 12 rules for developing a reliable and efficient questionnaire:

- Keep the questionnaire short
- Keep wording simple and use plain and clear language
- Verify that there are no unintentional assumptions contained in the questions
- Phrase questions with care to ensure there are no clues to the favoured responses
- Check for consistency
- In advance decide how to code the responses
- Keep the questionnaire practical and simple to answer
- Give clear instructions
- Provide a rationale for any question where the purpose may be uncertain
- Make the appearance of the questionnaire professional and appealing
- Do a pilot test to identify any of the above potential problems
- Review the final questionnaire to ensure that it meets the study's objectives

Cooper and Schindler (2006) provide five points to take into account in designing a questionnaire with a flow that prevents respondents from dropping out due to a loose of interest:

- Use filter questions to screen the potential respondent
- Establish rapport with initial buffer questions
- Build up participant engagement with focused questions
- Arrange questions from general enquiries to specific questions
- Include skip logic if it is appropriate to ensure sensible sequencing and pacing

Cooper and Schindler (2006) identified numerous factors that have to be well thought-out when designing a measurement scale. These factors can influence the reliability, validity, and practicality of the measurement scale:

- Objectives of the research
- Types of responses
- Amount of dimensions measured
- Data properties
- Whether scales should be balanced or can be they be unbalanced
- Number of scale points
- Use of forced or unforced choices
- Rater errors

Measurement scales are of four general types, these being: rating, ranking, categorization, and sorting (Hair et al., 2011). A rating scale is most relevant to questions in which participants must score a variable without having to make a direct comparison to another variable. In comparison, a ranking scale is used to make a comparison between two or more objects or ideas (Cooper and Schindler, 2006).

The research instrument for this study was designed using the above guidelines in mind and the questionnaire was set out in four sections.

The first series of questions were used to establish rapport with participants, and were used as filter questions to exclude those who were not intended to or willing to participate. The first section of questions also sought to collect data on the

respondents relating to measurable aspects of their demographics and professional history.

The second section then introduced questions relating to the conflict management subject. For this section, a consistent five point rating scale was used. This allowed for the questions to in a matrix format for ease of answering.

In the third section, a different five point rating scale was implemented, but again the rating scales were uniform and a matrix layout could be used. This section was carefully designed to illicit responses that would suggest at what level of conflict management maturity the respondent was presently managing project discord. The conflict maturity model presented by Lock and Scott (2013) was adapted into a series of 18 questions. Five sets of three questions were asked to establish agreement with the identifying characteristics of the five levels of maturity in project conflict management.

Ordinal ranking scales were used in the final (fourth) section, where the respondents were asked to rank, in order of importance, firstly the sub-skills and then the themes of conflict management that they believe have a positive influence on project outcomes.

3.10 Pretesting and Validation

Sekaran and Bougie, (2009) refer to validity as the extent to which a research instrument is able to measures the construct that it is proposed to measure. Reliability instead, refers to the consistency with which the instrument measures the concept that is being studied.

According to Wisniewski and Stead (1996), a pilot study is necessary to ensure the validity and potential reliability of the research instrument. This is done in order to check the appropriateness of the questionnaire prior to committing resources to the main study.

In addition, a pilot study allows for the uncovering any unforeseen problems relating to the relevance of the data being collected, potential bias in questioning and the selection of the appropriate sample members.

A pilot study group of five construction project practitioners was approached to pre-test the questionnaire. The small test sample included two site engineers with 3-5 years' experience, a quantity surveyor with more than 25 years' experience, a construction manager, and a project manager each with 13 years of experience. The pre-test respondents commented on the questionnaire design, and made suggestions for improvement with the view to achieving the studies objectives, identifying any potential limitations. Following the pretesting, some of the questions were rewritten to eliminate ambiguity and improve clarity. Additional information was also added to the introduction cover letter to better place the study into context for potential respondents.

The validation of the research questionnaire was to ensure that the questions in the research instrument would correctly return reliable and valid data on the concepts that it was intended to measure (Wilson, 2014).

The data collected using Survey Monkey was checked for completeness and validity before being analysed. The Survey Monkey application provides a tool to conduct this check and in addition allows for verification of whether respondents had understood the questions correctly or not. The receipt of stable and consistent results thus established the reliability of the collected data. The full discussion of the findings can be found in Chapter Four.

3.11 Sample

Cooper and Schindler (2006) explain the difference between probability and non-probability sampling:

- Probability sampling is a genuinely random selection, ensuring that each member of the population is given a known and equal chance of selection. This provides reassurance that the sample drawn can be considered representative of the population.
- Non-probability sampling by contrast is an arbitrary and subjective selection. Each member of the population does not have a determinable nor equal chance of being included. There is no assurance that the sample would be representative of all the members in the population.

For this study, non-probability sampling was implemented. This is primarily because the whole population was not known and therefore the sampling frame could not be

adequately defined. In particular, use was made of convenience sampling combined with snowball sampling. This was necessary because the population of potential respondents varied considerably across types or firm, permanent and contract employment, background of tertiary studies (if any) and significantly, affiliations with the relevant professional bodies. The initial people identified for the sample were readily available or known to be practicing in construction project management. Respondents approached directly were encouraged to redistribute the link by referral to their colleagues as a method of snowball sampling to increase the number of responses received. Cooper and Schindler (2006) also described the sampling types used:

- Convenience sampling: Is convenient with respect to time and expense, and is often used during exploratory phases of research.
- Snowball sampling: respondents are difficult to identify and future subjects are recruited by referral amongst acquaintances.

3.12 Data Collection and Analysis

Electronic questionnaires hold several advantages over other modes of data collection. They are easy to administer, easy to deliver, collect, and are inexpensive to implement (Sekaran and Bougie, 2009). The data for this study was collected using Survey Monkey, which is a computer and internet aided interview software application. To be able to generalise about the population based on the data obtained, it was necessary to ensure that the sample was as accurate and representative as possible (Saunders, 2009). The data collected was reduced to numerical form, which makes it possible to not only take inferences from the data, but also to apply statistical methods to interrogate the reliability of those inferences.

A questionnaire that the respondents were able to complete on their own was considered to be the most expedient method and appropriate for the qualitative and descriptive nature of this study. A request to complete the questionnaire was e-mailed to potential respondents. Those respondents were also encouraged to forward the invitation to colleagues who may be suitable candidates for participating in the study. This ensured a cost-effective and speedy data-collection method using the snowballing approach, as well as rapidly obtain a representative sample. By utilising

this method, the number of usable responses was expected to be high; however, the selection of respondents would not be entirely in the control of the study administrator.

The analysis of the qualitative research data collected involved primarily in treating the standardised responses quantitatively. The aim was to uncover or understand the trends in responses that might be useful or point to some pattern or help interpret some aspect of the phenomenon of conflict.

The data was tabulated and summarised, with graphical representations made of the data to assist with identifying prominent trends in the frequency of particular responses. For this the Microsoft Excel package was used to work with the data from Survey Monkey in an exported .CSV file (comma-separated values).

Tabulation and summarising of the data was done within Excel and the charting tools within the software were extensively applied to aid in the visual interpretation of the data. The data was then analysed on two levels:

1. The basic or manifest level was used to simply describe the summarised results.
2. A latent level of analysis was then made, in order to provide a more interpretive assessment of the data, integrating the knowledge that was obtained during the literature review with both researcher experience and the observed trends.

Inferences relating to the research objectives were then presented using the summative data and graphical representations to inform and support the findings.

3.13 Summary

The study was undertaken using scientific research methods to collect and analyse the data collected. A descriptive qualitative approach was adopted for the study, using practical sampling methods to ensure that the findings could be generalized for the population. The research instrument was developed to ensure that it elicited the information intended.

The data gathered by this study had characteristics that allowed it to be represented numerically and graphically. This data was checked, analysed and synthesised into the research findings, which are presented and discussed in Chapter Four.

Chapter Four: Presentation of Findings

4.1 Introduction

The previous chapters raised the issue that conflict management skills have received only modest consideration in the South African construction sector, both in terms of research and development of suitable training materials. This lack of attention together with a shortage of literature brings into question the skills of construction professionals and the relevance of conflict management training provided for them to prepare them for their role as project management practitioners. This study aimed to establish the prevalence and intensity of conflict situations in the construction project management sector, with the secondary aim of understanding current areas of conflict management skills development that may be useful to practitioners in the field. This chapter presents and discusses the findings of the primary data obtained from the study.

4.2 Data Collection

Data was collected using a questionnaire deployed via the Survey Monkey online tool. The survey was open to respondents to complete for 31 days, during which time 153 responses were received. Of these responses, 31 respondents did not complete the entire survey, leaving 122 fully completed data sets. The primary data described in this chapter makes use of all available responses to each question to draw basic descriptive statistics on the responses.

4.3 Response Rate

According to the South African Council for the Project and Construction Management Professions 2014/2015 Annual Report there are 3 640 Professional and Candidate members registered in the Construction and Construction Project Management categories (SACPCMP, 2015). Combined with the Engineering Council of South Africa's 16 423 registered members (ECSA, 2015), the estimated population size for this study is in excess of 20 063 people. This is because a significant number of experienced construction sector experts are not professionally registered. Utilising the table for estimating sample size suggested by Sekaran and Bougie (2009, p295), a sample size of 383 was decided given the large and uncertain population size. In an effort to achieve a meaningful response rate, a non-probability sampling approach was adopted. A personal invitation was sent to known contacts who had been targeted due

to their experience and backgrounds in the construction sector. Following this approach, a total number of 625 participants were contacted via either LinkedIn messages or e-mail messages. 153 responses were received from willing participants, who made use of the Survey Monkey online tool to take part in the study. This constitutes a response rate of 34% which was not as high as desired, however it was considered as suitable for tolerable confidence intervals around the desired parameters and an acceptable response rate for online surveys (The University of Texas at Austin , 2010).

4.4 Completion Rate

The completion rate is the number of surveys respondents completed and submitted, expressed as a fraction of the quantity of surveys initiated by respondents. For this survey 153 respondents interacted with the online tool, all of whom agreed to the consent to participate. Of the 153 participants, only 122 completed the entire survey. This means the survey had a completion rate of 79.7%, which was good given the length of the survey and the difficulty of the questions respondents were required to complete (Kuriakose, 2015).

An unsatisfactory completion rate could mean that respondents are not finishing all the information that the survey instrument requires (Fluid Surveys University, 2014). This means that particular questions will have a lower level of reliability than others will, because these questions implicitly have a smaller sample size.

Low completion rates may be due to respondents experiencing the survey as frustrating. Respondents were already participating in the survey, filling out the questionnaire, however for some reason were abandoning questionnaire before completing all of the questions.

During the fielding of this survey a number of respondents submitted queries, stating that questions 14 and 15 were 'broken'. These were the final two questions in the survey and required participants to rank statements from most to least important using a numbered ranking schema. The logic in the programming of the online tool meant that if a participant used the same rank number a second time, then the first appearance of that rank number would be wiped clear. This lead to the impression

that the question was broken, when in fact it was a necessary logical assumption, as each rank could only be used once.

It was noted that most, 22 of the 31, participants who dropped out of the survey, did so before completing Question 14, but after completing Question 13. This represents 71% of the drop outs.

Two factors are believed to have combined at this point in the survey to cause this. The first is the length of Question 13: This question had 18 individual statements which participants were asked to identify with, using a rating scale. The second was the frustrating logic of Question 14. With these two factors combined, it is easy to understand why participants would abandon the survey at this point.

This should be considered carefully by other researchers who use ranking questions, or mentally challenging questions and answer logic. This should be avoided at the end of surveys when participants are already fatigued and time constrained to complete the questionnaire.

4.5 Presentation of Findings

4.5.1 Age

Some 32.00% of respondents were between 35-44 years of age, 25.33% were between 45-54 years of age. This indicates that the majority of respondents, 57.33%, that is more than half, were in the age range of 35 to 54. This represents a fairly high proportion of respondents in a relatively narrow age range of only two decades, given that the entire sample had an age range spanning over 50 years (25 to 74).

Although the sample was taken on a non-probability basis, and therefore cannot necessarily be regarded as representative of the entire population of construction practitioners, there is an indication from this data that there has been a decline of new entrants to the construction management sector in the past decade, when compared to prior decades. This trend can be seen in **Figure 4.1**, and is somewhat consistent with the overall trend in construction since around 2010.

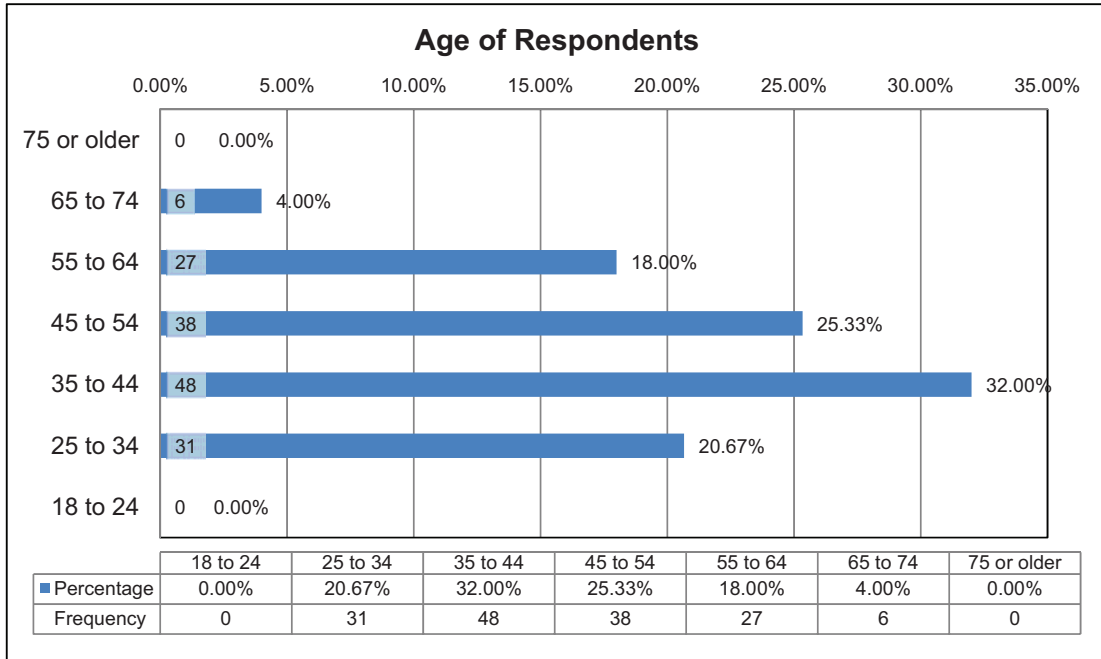


Figure 4.1 Question 3 - What is your age?

4.5.2 Gender

Figure 4.2 shows a female representation of on 4.67% within the group of respondents. Female representation in management positions within the construction sector generally remains low and this appears to be the case in this study as well. Males made up the remaining 95.33% of respondents.

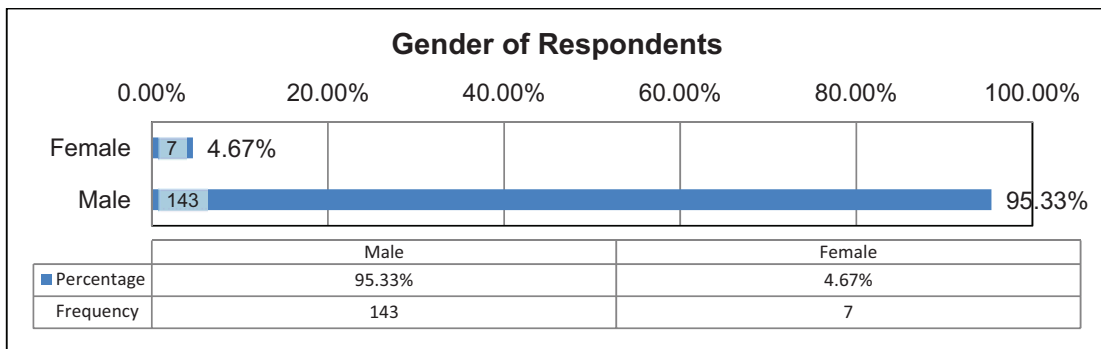


Figure 4.2 Question 4 - What is your gender?

4.5.3 Education

Figure 4.3 shows the self reported education levels of respondents. The majority have post-matric qualifications, representing 76% of the respondents. Further to that, of those with tertiary qualifications, a third (33%) have gone on further to obtain postgraduate qualifications.

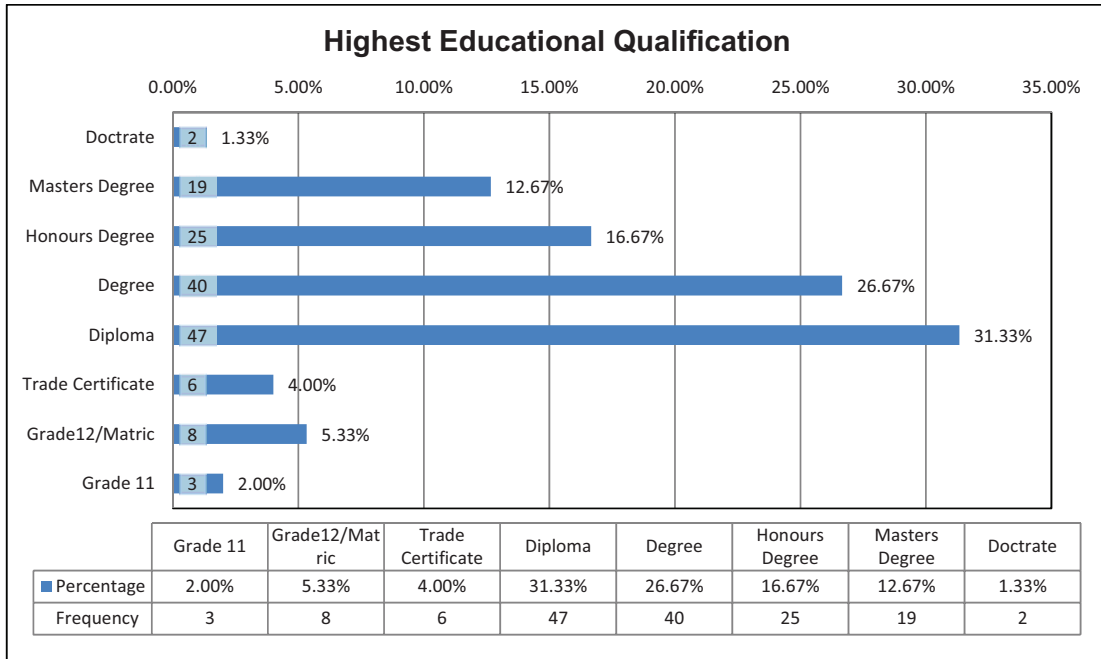


Figure 4.3 Question 5 - What is your highest level of educational qualification?

4.5.4 Experience

Figure 4.4 shows that 43 (28.67%) of the respondents have more than twenty five years of experience. Those with experience ranging between 21 to 25 years constitute 14% of the respondents. Interestingly this is the same as for the group with experience ranging 16 to 20 years. A steady increase is noted in those with between 11 to 15 years experience, as well again 6 to 10 years, and then in a trend that corresponds with the ages of respondents from Question 3 (Figure 4.1), a significant decline in respondents in the 1 to 5 years experience category.

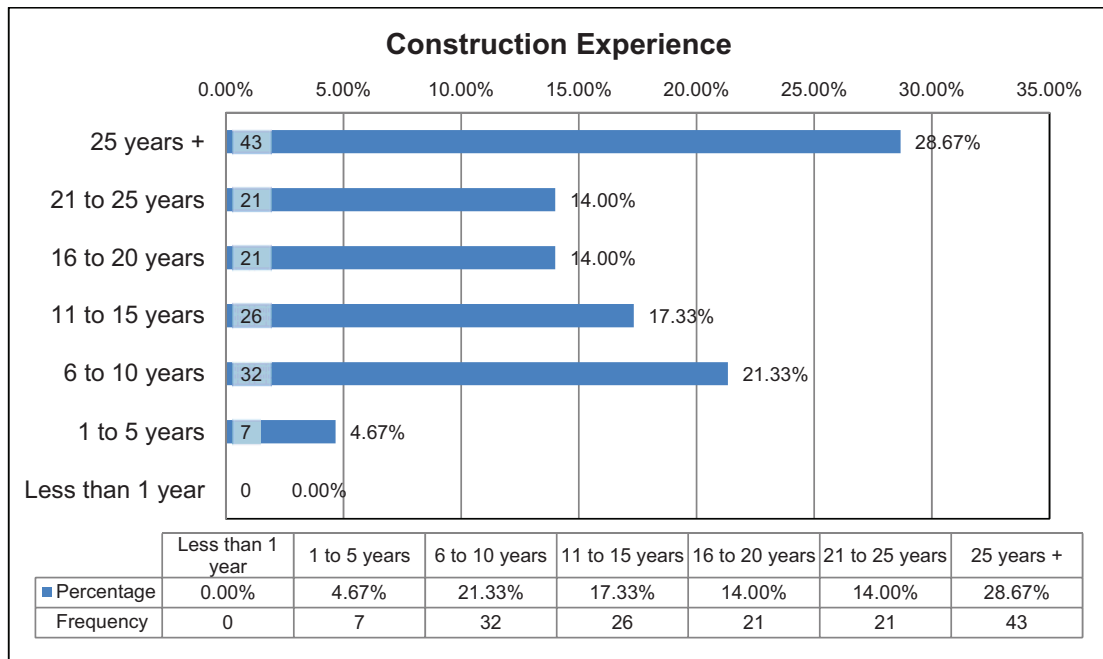


Figure 4.4 Question 6 - How many years experience do you have in the construction industry?

Although this result reveals that the 95% of the respondents have what could be considered better than entry-level experience, the sharp decline in respondents with experience less than ten years is troubling, as this possibly indicates a lack of interest in the construction sector amongst young people as a career option. It does however, mean that the work experience of respondents answering this survey, can be considered mature and varied enough to incorporate both positive and negative experiences of conflict situations and most likely therefore a balanced view on the phenomenon of conflict in the construction sector.

4.5.5 Profession or Position in Organisation

Figure 4.5 shows the different profession or organisational functions in which the respondents are engaged. The data shows that, a significant number of respondents replied 'Other' (39.33%). These respondents were requested to specify the other profession or position, and **Table 4.1** summarises their responses into 18 further classifications. There appear to be no significant professions, roles, or functions that stand out above the others in terms of frequency of response. It is interesting however to note that it can generally be said that respondents found the six original classifications too restrictive. A review of the classifications also reveals that there is

some contradiction for respondents in deciding the definition of their professional roles versus their organisational roles. This is notable in the case of respondents who answered other and then specified a position that can best be described as an executive, general or business management role. This may in fact point to an interesting area of study for future research: role definitions and role ambiguity for management in a technical field such as construction or engineering.

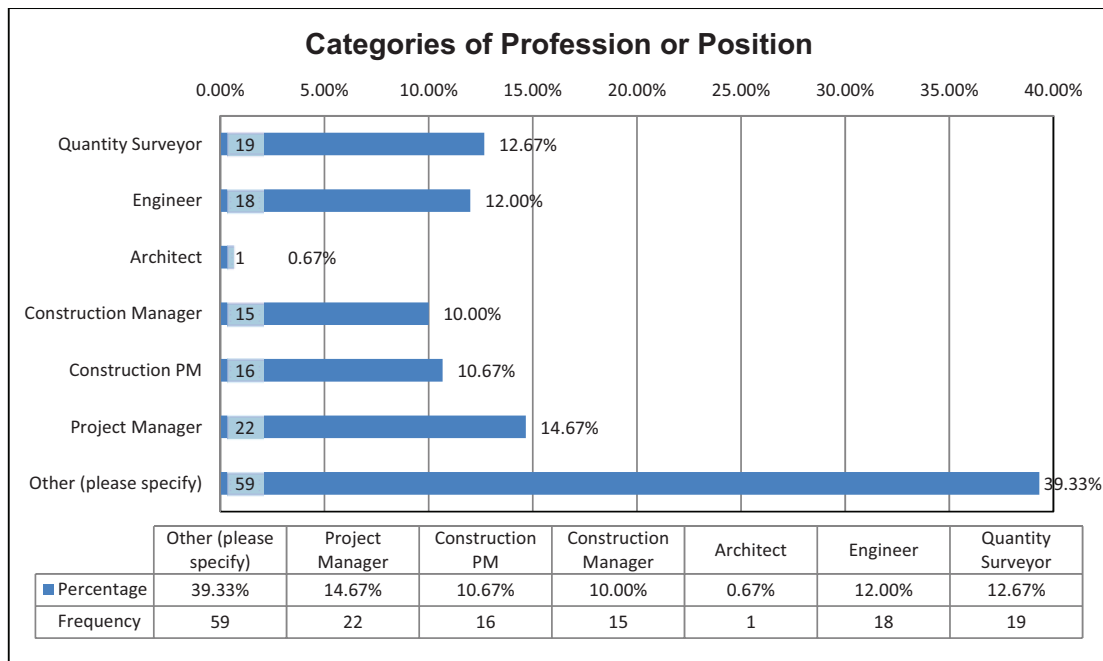


Figure 4.5 Question 7 – Which category best describes your profession or position?

This is indeed a recurring difficulty in project organisations and a challenge for overlapping professional and business management functions within these types of companies, which are typically arranged as matrix organisations, but with the added complexities of joint ventures and temporary project hierarchies. In particular, job titles and descriptions are exceptionally difficult to define and keep consistent, because the organisations are constantly evolving and rearranging themselves to suit the requirements and demands of projects, both those currently being tendered on, and those presently in execution.

Table 4.1 Question 7 – Expanded classifications of ‘Other’ category

Classifications of “Other”	Frequency	Percentage of Total Respondents
HR Management & Recruitment	1	0.67%
Quality Management	3	2.00%
Health & Safety Management	1	0.67%
Procurement Management	1	0.67%
Cost Engineering	3	2.00%
Commercial Management	3	2.67%
Planning	4	5.33%
Estimating	2	1.33%
Project Controls	4	2.67%
Contract(s) Management	3	2.00%
Executive Management	16	10.67%
Programme Management & Project Directors	3	2.00%
Lawyers/Advocates	2	1.33%
Surveying	1	0.67%
Expert (Forensic witness/analyst etc)	3	2.00%
Draughting	1	0.67%
Architectural Technologist	1	0.67%
Engineering Technologist	1	1.33%
Sub-Total	59 out of 150 respondents	

4.5.6 Years Experience in Profession or Position

Of the responses received, 54.66% of respondents had more than ten years experience in their present role. **Figure 4.6** shows the distribution of years of experience at their current roles. Notably a high number of respondents have more than 25 years of experience, with a sharp drop immediately thereafter. The number of experienced individuals then gradually climbs again as years of experience decreases.

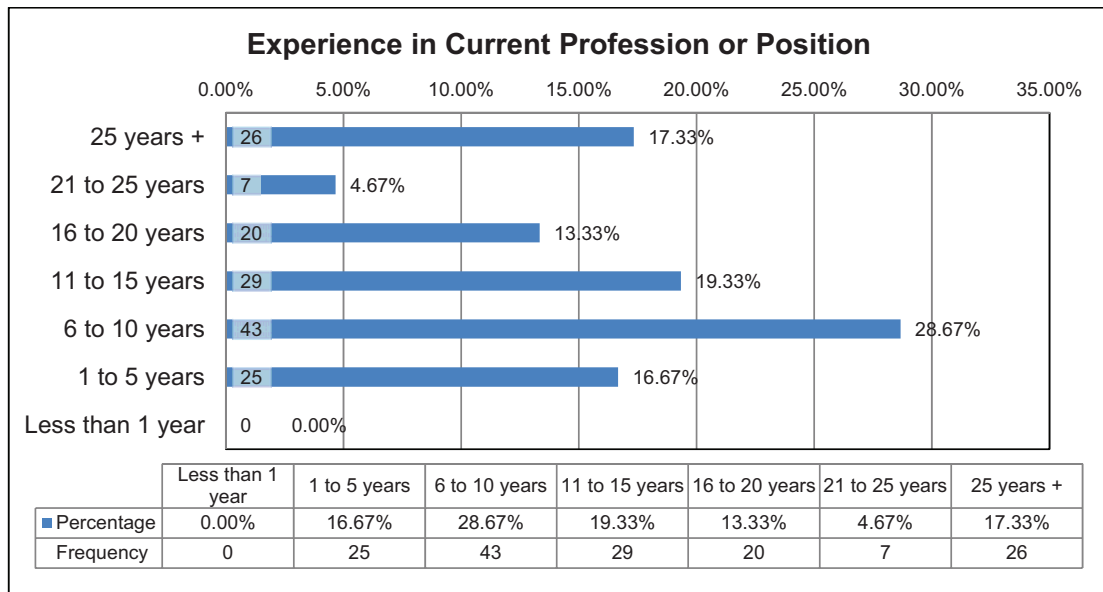


Figure 4.6 Question 8 – How many years experience do you have in the profession or position you are currently in?

4.5.7 Registration with SACPCMP

It is evident from **Figure 4.7** that the majority (85.33%) of the respondents are not registered with the South African Council for Project and Construction Management Professions (SACPCMP). Respondents registered in the two professional membership categories for construction make up 9.33%, followed by 5.33% of respondents registered as either candidate Construction Managers (6 respondents) or candidate Construction Project Managers (2 respondents).

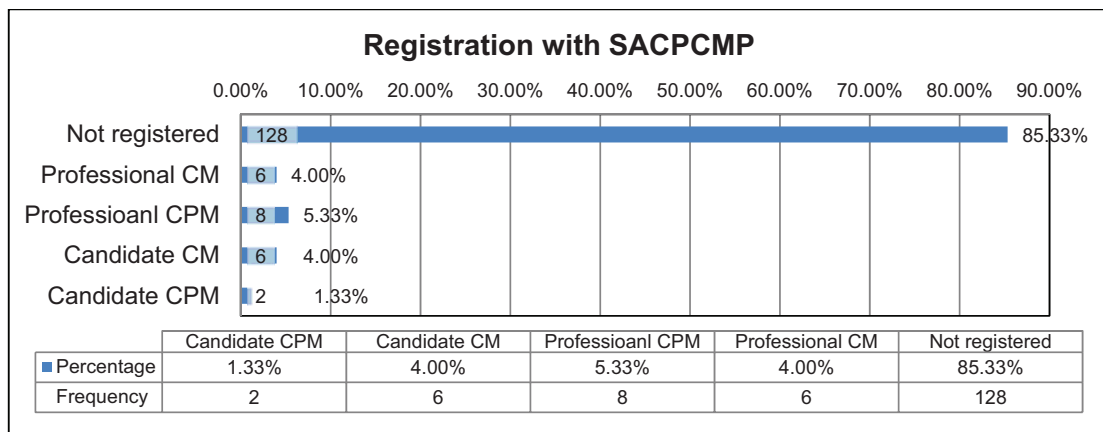


Figure 4.7 Question 9 – Are you registered with the SACPCMP?

4.5.8 Registration with PMSA

Of the responses received, the majority (92.67%) of the respondents were not registered with Project Management South Africa (PMSA). Only two respondents were registered as Professional Project Managers, whilst a further nine respondents had memberships, either in the Full membership (4 no.) or Affiliate Associate (5 no.) grades.

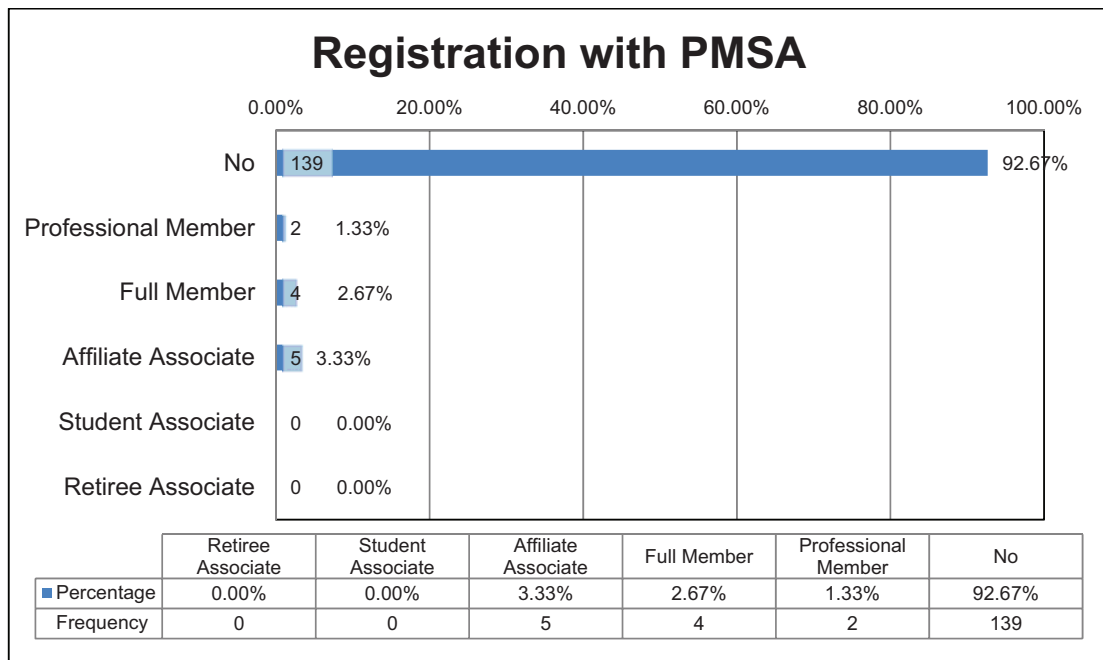


Figure 4.8 Question 10 - Are you a member of Project Management South Africa (PMSA)?

4.5.9 Registration with ECSA

More respondents were registered with the Engineering Council of South Africa (ECSA) than with any of the other professional bodies. Professional registration as an Engineer (Pr Eng), Engineering Technologist (Pr Tech Eng), Certificated Engineer (Pr Cert Eng) or Engineering Technician (Pr Techni Eng), constituted 18% of the respondents. Candidate registrations in the same categories made up 9 % of respondents. Still the majority (76%) of respondents were not registered with ECSA.

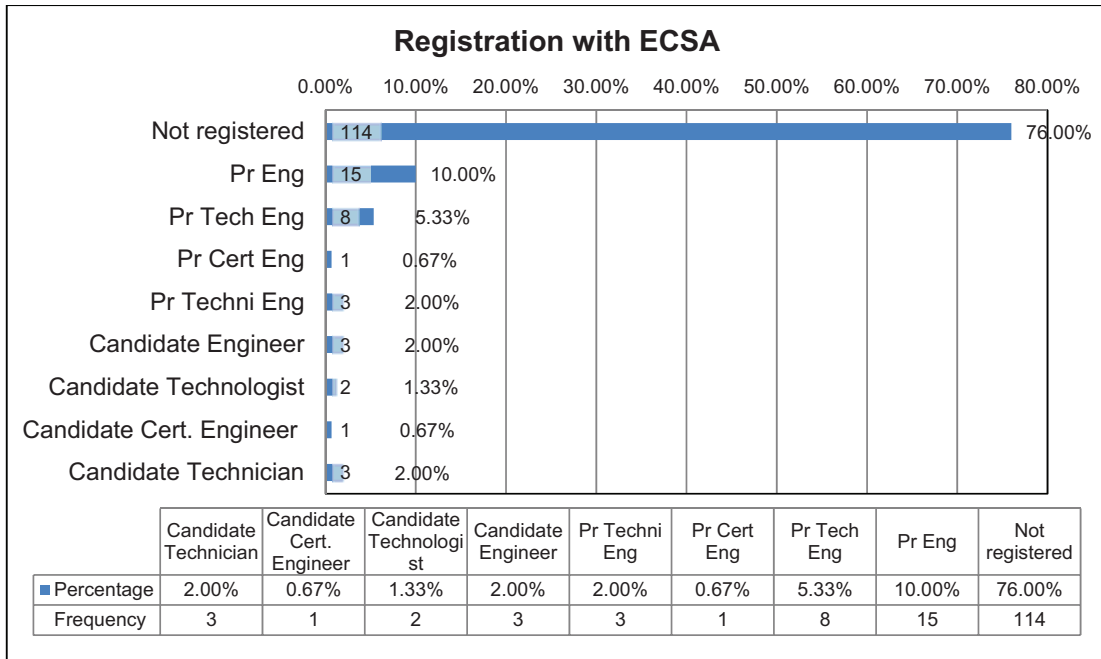


Figure 4.9 Question 11 – Are you registered with the Engineering Council of South Africa (ECSA)?

4.5.10 Conflict Situations in Construction Project Management

Figure 4.10 is a visualisation of the responses received for Question 12 of the survey questionnaire. This question asked participants to indicate the strength of their agreement or disagreement with the proposed statements and their own experience of conflict situations in construction projects. The representation of the results is by means of divergent stacked bars, combining the responses to each of the five scales into a single horizontal bar. This bar is made up individually coloured parts in proportion to the percentage of respondents who chose that particular corresponding rating scale number. Further to that, each horizontal stack bar diverges from a common centre line placed to represent the middle point of the neutral, in this case "Unsure" response option on the rating scale. In this manner it is easy to visually assess the overall weighting of responses towards agreement or disagreement.

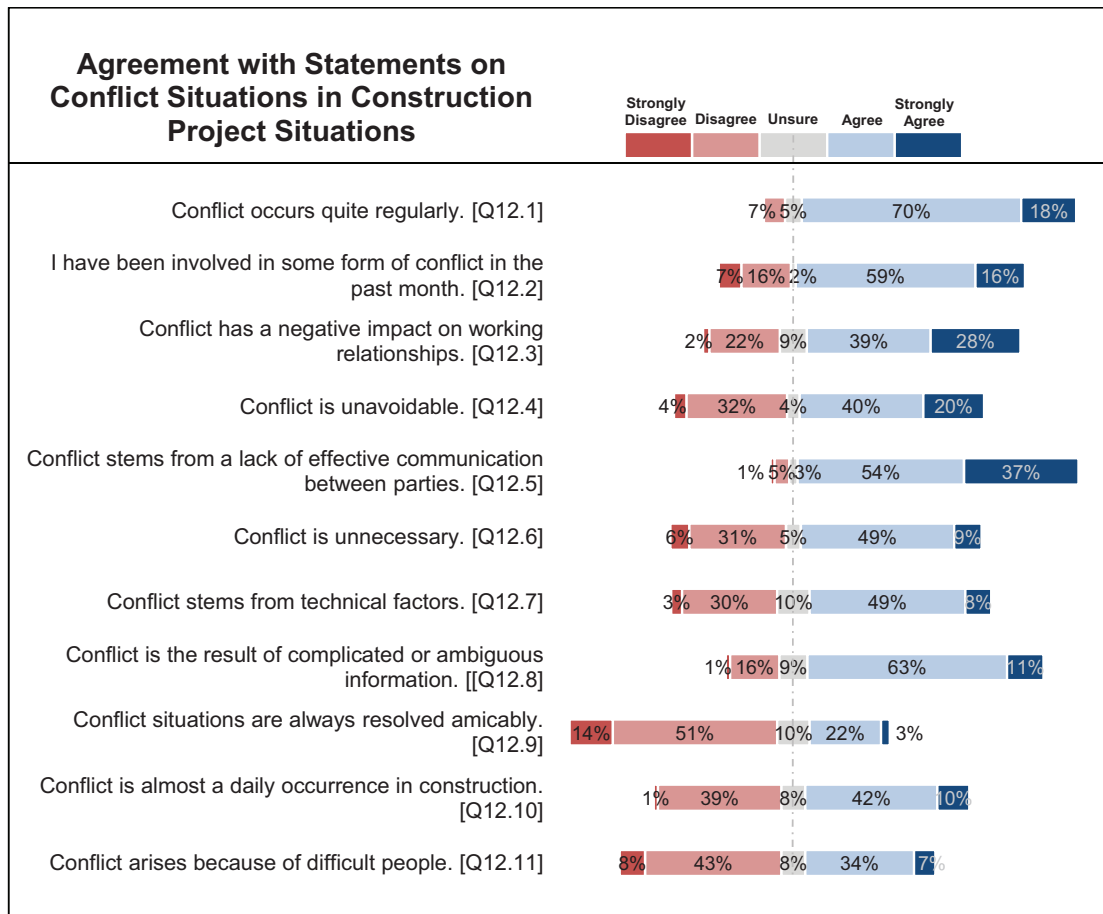


Figure 4.10 Question 12 – How strongly do you agree or disagree with the following statements in the construction project context?

Q12.1 in **Figure 4.10**, shows that 70% of the respondents experience conflict as a regular occurrence, with a further 18% agreeing strongly with this view. This means that 88% of respondents agree that conflict situations occur regularly in construction.

As shown in **Figure 4.10**, Q12.2, some 59% of respondents agreed that they had been involved in conflict during the preceding month, whilst 16% of respondents were in strong agreement with this statement. This implies that three quarters (75%) of respondents have experienced conflict in the previous month. This reinforces the consensus agreement on the statement that 'Conflict occurs quite regularly' and that as such conflict is counterproductive. There is thus a need to find ways to reduce the occurrence of conflict.

As an interesting comparison, the views of respondents on Q12.10 were more divided. In response to 'Conflict is almost a daily occurrence in construction', just over half the respondents agreed (52%), whilst 40% did not agree and 8% were unsure. This provides an indication of the frequency of conflict experiences for construction practitioners.

In addition, it is interesting to take the frequency of conflict into account, along with the respondents' reactions to the statement: 'Conflict is unavoidable'. In question Q12.4, 60% of respondents agreed that conflict was an unavoidable phenomenon in construction. This seems to imply then that the majority of respondents are of the opinion that a person working in construction project management will certainly and quite frequently so, encounter conflict. Yet again, this issue needs to be addressed to improve relationships, build better teams and to improve productivity.

The majority of respondents also however agreed that conflict was unnecessary (**Figure 4.10** Q12.6). This is perplexing, as it seems to be contrary to the notion of the inevitability of conflict as shown in Q12.4's responses. A probable explanation is that the prevalence of conflict scenarios in the construction project management sector is so widespread and frequent, that although respondents may feel conflict is preventable (or otherwise 'avoidable'), it is deemed 'unavoidable' rather because of the frequency with which it occurs.

Looking further at the origins of conflict, in **Figure 4.10** Q12.5, there is a strong sentiment of agreement from respondents that 'conflict stems from a lack of effective

communication between parties'. A significant majority (91%), agreed to this statement, with only 6% of respondents disagreeing.

To further clarify the source of this 'lack of communication'; the results of the remaining three statements on the origin of conflict should be considered. In **Figure 4.10** Q12.11, there was a divided response, with 51% of respondents of the opinion that 'difficult people' do not give rise to conflict. This indicates that it is unlikely that the lack of communication identified through Q12.5 is the result of poor communication skills or interactions between people personally. Also by examining the response to Q12.7, it becomes clear that technical issues are not the primary cause of conflict. However, **Figure 4.10** Q12.8, clearly shows a strong agreement from respondents with the idea that conflict arises from complicated or ambiguous information. This helps to hone in on the type of communication that is lacking in one form or another and giving rise to conflict scenarios.

In construction projects, a great deal of communication is conducted via formal and often lengthy contract documents. In most cases, the project documents will include not only the contract, drawings and technical specifications, but also unique health and safety standards, quality requirements, industrial relations and human resources policies and various other requirements. These all constitute an agreement between the contracting parties, but rarely are they compiled by one entity or department, and often are written documents used generically across many projects. This gives rise to situations where relevant information pertaining to the performance obligations of the parties to a contract, are contained across numerous documents, which often do not correspond with each other very well. This likely is the primary source of 'complicated and ambiguous information'. The lack of communication then occurs when the various parties interpret these documents rather differently, but never confer with each other, believing that each has interpreted the meaning of the same documents correctly on their own terms.

Question 12 also attempted to develop a construct around the effects of conflict. Q12.6 shows that respondents mostly agreed that conflict was an unnecessary phenomenon, with 58% agreeing to this statement. However, 37% also disagreed with the same statement, meaning that to some respondents probably felt that conflict was a necessary part of construction project management.

Conflict is generally not regarded as a welcome phenomenon and this is seen in the impact it has on working relationships. The majority of respondents (69%) agreed that conflict has a negative influence on relationships between parties, whilst only 24% disagreed.

Question 12.9 was stated in a way to check that respondents were in fact reading and interpreting the statements properly before making their selections. As may have been expected, the majority of respondents disagreed with the statement that 'Conflict situations are always resolved amicably'. This indicates that respondents were reading the statements carefully enough and paying due attention to select their responses for a statement that was intentionally stated negatively. It also further reinforces the overall view respondents have that conflict is an antagonistic phenomenon.

4.5.11 Conflict Management Style

Figure 4.11 is a visualisation of the responses received for Question 13 of the survey questionnaire. This question asked participants to indicate how much they personally identified with the given statements. The scale used for ratings ranged from "Not at All" to "Very Much", with a "Neutral" option in the middle. Overall, the scale had five ratings possibilities. The representation of the results is by means of divergent stacked bars, combining the responses into a single horizontal bar. This bar is made up of individually coloured parts in proportion to the percentage of respondents who chose that particular corresponding rating scale number. Further to that each horizontal stacked bar diverges from a common centre line placed to represent the middle point of the neutral response. In this manner, it is easy to visually gauge the consensus view of the respondents. A bar weighted more to the left indicates that the majority of respondents do not identify with the statement and a bar weighted more to the right indicates that respondents do generally identify with the given statement.

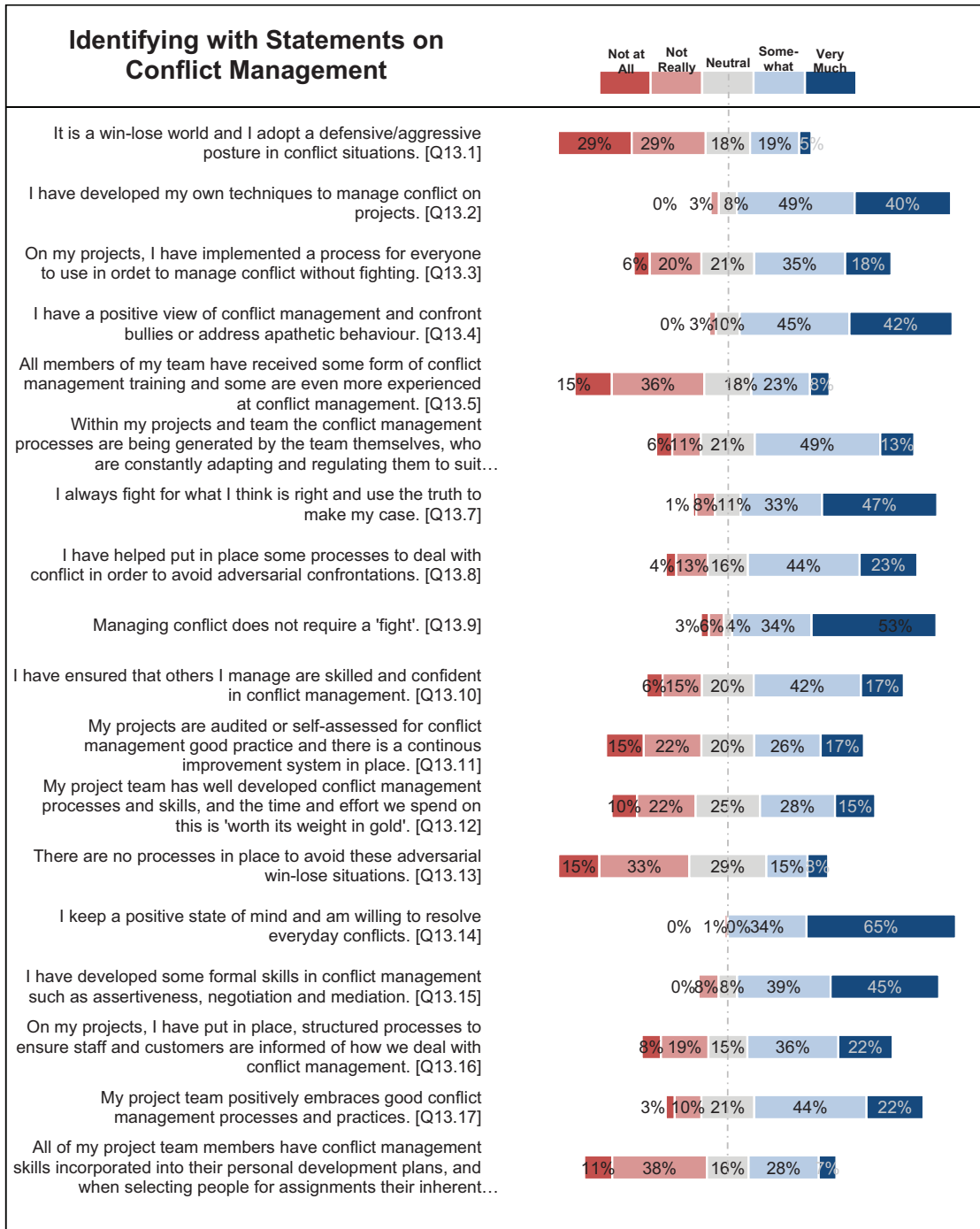


Figure 4.11 Question 13 – Please rate how strongly you identify with the following statements.

Several statements elicited strong responses, with respondents identifying positively with the statements.

In Q13.2, the majority of respondents have developed their own techniques to manage conflict on projects, with 49% saying “Somewhat” and 40% saying “Very Much”. This is an indication that the majority of respondents have managed to adapt to the frequent conflict situations in construction and believe that they are prevailing in their management of these situations. This implies that respondents in all likelihood also accept that there are techniques that can be learnt in order to deal with conflict.

This seems to be further supported in the responses to Question 13.15. The majority of respondents (84%) have, by their own assessment, developed formal skills in managing conflict. Skills listed in the statement included assertiveness, negotiation and mediation.

Question 13.4, dealt with dispositional positivity in the context of construction conflict. Overwhelmingly (87%) respondents identified with a positive outlook on conflict management and said that they sought to address bullies in confrontations as well as address apathetic behaviours.

This idea of addressing bullying behaviour in conflict ran through Question 13.7 again, as respondents affirmatively identified with the statement “I always fight for what I think is right and use the truth to make my case”. As many as 47% respondents found they identified ‘Very much’ with this statement.

In order to test respondents views on the construct of fighting as a consequential part of conflict, Question 13.9 proposed the idea that ‘managing conflict does not require a fight’. Interestingly, even though the majority of respondents had associated positively with “fighting for what I think is right” in Question 13.7, an even bigger majority did not believe that effective conflict management involved fighting at all. As much as 53% of respondents replied “Very much” to the negatively phrased statement “Managing conflict does not require a ‘fight’ ”.

This seems to point to a belief amongst the majority of respondents that an adversarial stance is not appropriate to managing conflict.

The statement: “I keep a positive state of mind and am willing to resolve everyday conflicts”, struck a chord with nearly every single respondent (Question 13.14). Only 1% of respondents stated that they did ‘Not really’ identify with it. Of the remaining 99%, a very substantial 65% of respondents responded that they identified “Very Much” with the statement.

4.5.12 Sub-Skills of Negotiation and Conflict Resolution

Question 14 of the survey asked participants to rank the importance of eight different skills in negotiating and resolving conflict. These skills included, packaging, questioning, brainstorming, defining issues, persuasion, listening, framing and argumentation.

Figure 4.12 shows the results of the ranking by the respondents. Each skill is firstly represented by a series of eight bars showing the frequency with which each was ranked 1 (most important) to 8 (least important). The skills are then further arranged from left to right, in the order that they received the ranking of most to least importance, as indicated by their scores. The scores are intended to show the average ranking for each skill selection so that it may be ascertained which alternative was the most favoured. The choice with the largest score is the most preferred choice. Scores are calculated by multiplying the frequency of the choice by its weight. Weightings are allocated in reverse, with the respondent's favoured choice (which they ranked as 1 – Most Important) carrying the greatest weight, and their least favoured choice (which they ranked in the last place, 8 – Least Important) having a weight of 1. The average scores are then divided by a factor of 10 to ensure they can be clearly shown on the same scale as the individual answers ranking distribution. In this way, when the data is presented on a chart as in **Figure 4.12** and **Figure 4.13**, it is clear which answer choice is most preferred, and at the same time what was the distribution of ranking selections for any particular choice.

Figure 4.12 shows the order of ranking, which clearly indicates that Listening was considered to be the most important skill (scored 0.69), followed by the Defining of Issues (0.62), then Questioning (0.54) and then Brainstorming (0.48).

In **Figure 4.12** it can be seen that the skills Framing, Packaging and Persuasion all scored very similarly (0.37, 0.35 and 0.34), and therefore overall participants did not

see any of these three skills as specifically more or less important. However, argumentation did score the lowest overall (0.23), and from **Figure 4.12** it can clearly be seen that it was the least valued skill in negotiation and resolving conflicts.

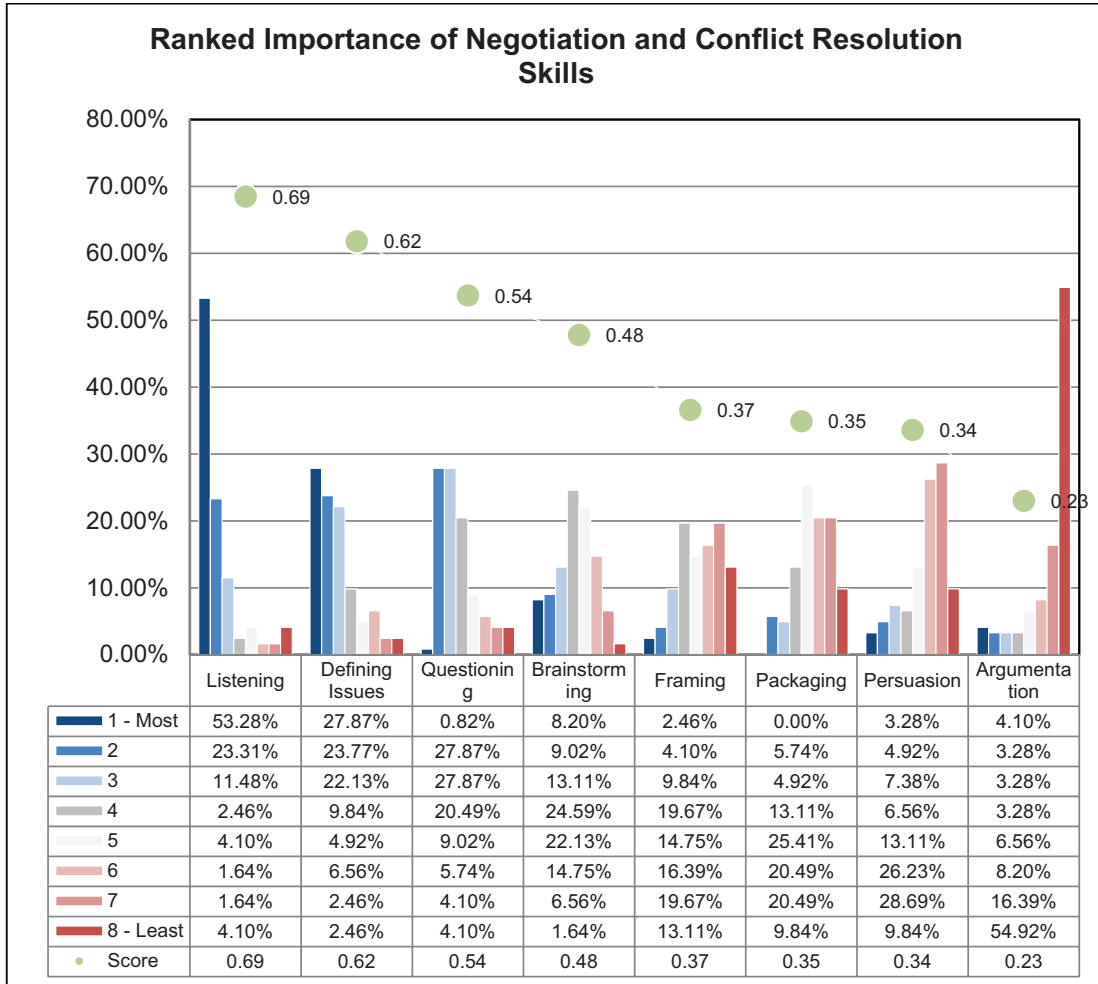


Figure 4.12 Question 14 – Please rank the following sub-skills of negotiation and conflict resolution as you see their relative importance.

4.5.13 Themes of Negotiation and Conflict Resolution

The final question in the survey was Question 15, which asked respondents to rank the importance of four themes of negotiation. These themes were phrased as “Negotiation is the management of: ‘Relationships’, ‘Complexity’, ‘Interdependent personalities’ or ‘Emotion’ ”.

Figure 4.13 shows the results of the ranking selections made by the respondents. Relationship management was considered to be the most important theme (scoring 0.30), followed by managing Interdependent personalities (0.25) and Complexity (0.24). The least important theme in negotiations was considered the management of emotion (0.21).

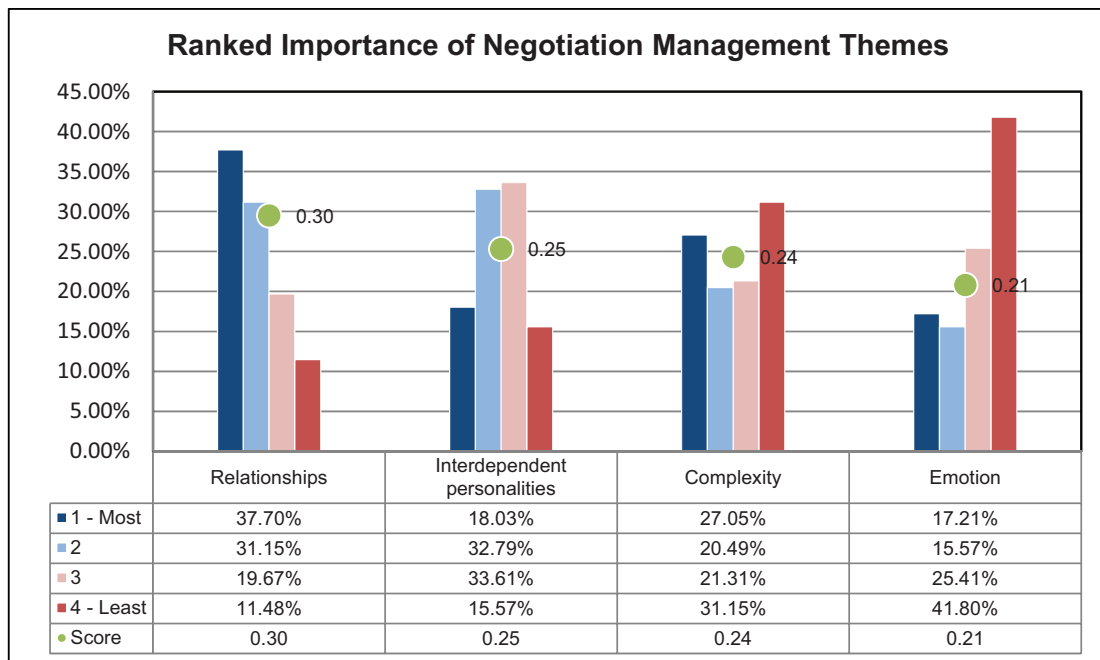


Figure 4.13 Question 15 – Please rank the following themes of negotiation as you see their relative importance to obtaining positive outcomes.

4.6 Summary

This chapter examined and presented the statistical evidence concerning the data that was gathered during the fieldwork phase of this study. Data was presented in tabular as well as graphical formats.

The results of this study indicated that construction management practitioners experience conflict frequently and will likely have been involved in a conflict scenario within the past month, if not more recently.

The results further indicated that practitioners generally were of the opinion that conflict stems from a lack of effective communication and complex ambiguous information, rather than from technical matters and difficult personalities.

The majority of practitioners believe that whilst conflict is unavoidable, it is also considered unnecessary and can have negative impacts of working relationships, which are essential to manage properly when seeking to resolve conflict amicably through negotiation.

Most practitioners have had to develop their own methods and techniques for managing conflict and regard having a positive mind-set as the most important attitudinal requirement. Furthermore, practitioners rank the skills of listening, questioning, and defining issues as the most important for effective conflict management.

In the following Chapter Five, there is a discussion of the findings as they relate to the research objectives, including recommendations based on the findings and a conclusion to this study.

Chapter Five: Conclusion and Recommendations

5.1 Introduction

The aims of this study were to establish the prevalence of conflict situations within the construction project management scenarios and to determine if professional practitioners would benefit from formal training in conflict management either as part of their continuing professional development or as a prerequisite to registration. To achieve these aims, this study took the form of descriptive research utilising a quantitative research instrument. A sample population was drawn from project management practitioners in South Africa. The research design and methodology utilised to undertake this study was described in Chapter Three.

5.2 Findings

5.2.1 Objective 1 - The Frequency and Intensity of Conflict

5.2.1.1 Findings from literature:

Conflict appears to be inevitable and can be observed as either positive or negative based on its long-term outcomes (Gebken, 2006). Research by Gardiner and Simmons (1992) has shown that conflict is present during all phases of a construction project. Ayudhya and Israngkura (2011) highlighted the following four origins of conflict in construction:

- contract documents containing errors, defects and omissions,
- miscalculating the true cost of the project at the beginning,
- changing conditions (from those anticipated), and
- changing stakeholders involved during the project

Whilst Sambasivan and Soon (2007) categorized the causes of conflict in the construction industry into three groups, based on the primary party responsible, being either client-owner related factors, consultant related factors or contractor related factors.

5.2.1.2 Findings from fieldwork:

The results of this study indicated that construction management practitioners experience conflict frequently and will likely have been involved in a conflict scenario within the past month, if not more recently.

The results further indicated that practitioners generally were of the opinion that conflict stems from a lack of effective communication and complex, ambiguous information, rather than from technical matters and difficult personalities.

5.2.2 Objective 2 - Conflict Management Strategies and Skills Used by Construction Project Managers

5.2.2.1 Findings from literature:

Loosemore, et al. (2000) had found that conflict was managed mostly by exploring different solutions and taking into consideration other perspectives. Although the principle of functional conflict was accepted, it is not widely considered as a real world means of working with conflict. Rather, encouraging the parties to co-operate and actively discuss issues was considered the best way to find amicable solutions to conflict scenarios. Furthermore, Loosemore, et al. (2000) had found that most of the conflict handling styles employed by construction managers were not offering any of the benefits to be found from functional conflict. Using compromise strategies and being overly obliging, construction managers were restricting the potential to find mutually beneficial solutions. Interestingly it was also found that despite construction site managers typically being considered uncooperative and generally lacking concern for others, the dominating style of conflict management was in fact the least used.

5.2.2.2 Findings from fieldwork:

Most practitioners have had to develop their own methods and techniques for managing conflict and regard having a positive mind-set as the most important attitudinal requirement. Overall fighting or competing in conflict scenarios is not seen as an effective strategy. In addition, practitioners consider the management of relationships to be the most important theme in conflict negotiation, whilst the management of emotions was considered the least important.

5.2.3 Objective 3 - Impact of Conflict and the Effectiveness of Present Conflict Management Techniques

5.2.3.1 Findings from literature:

Conflict is largely understood to be an unwelcome phenomenon. It may at times have beneficial aspects to it, but for the most part, it seems to hinder rather than develop relationships. Kassab, et al. (2010) held the position that conflict remains an important challenge for the construction industry, and leads to project failures, litigation and in the worst cases outright abandonment of the project. However it was Verma (1998) who seemingly had it right, taking the view conflict is unavoidable and is a natural phenomenon. However, Verma (1998) added the probably the most useful insight of all: that positive or negative outcomes are determined not by the origin of the conflict, but rather the response to it.

5.2.3.2 Findings from fieldwork:

Whilst there is some evidence to be found in the literature for a constructive view of conflict, the majority opinion expressed in this study by respondents was however that conflict is unnecessary. Which seems to imply that there is no need for conflict and it is also not desired.

It however, it is further very interesting to note that whilst the majority of practitioners believe that conflict is unnecessary, it is also considered unavoidable by a nearly equal number of participants. This potential paradox may point back to the views expressed by some authors in the literature review. That is that whilst conflict may be inescapable (unavoidable), the nature of the conflict and its management is the more important matter. Respondents who believe conflict is 'unnecessary' may have been expressing a view about only their negative or dysfunctional experiences of conflict. Whilst those who believe it is unavoidable may also simply be expressing this opinion whilst considering it purely from the frequency with they have experienced it, rather than the value of its outcomes.

Consequently, it seems that a deeper understanding of the conflict phenomenon is required across a broader spectrum of construction professionals. Project practitioners are perhaps not aware of or not taking into account the constructive benefits of conflict when it is properly directed and managed.

5.2.4 Objective 4 - Importance and Value of Conflict Management Training and Development

5.2.4.1 Findings from literature:

As Kaufman (2011) suggested, there are benefits to offering training on conflict management related topics. In his view training leads to changes in perception and attitude toward conflict, which then lead naturally to behavioural changes. In their study, Cain and Du Plessis (2013) found that relationships have the potential to improve as a result of dealing with conflict in a professional manner. This has the dual benefits of potentially improving understanding between individuals and leading to personal growth for the individual through self-reflection and insights into different perspectives.

5.2.4.2 Findings from fieldwork:

Practitioners who took part in this study mostly felt that conflict management was not yet properly integrated into personal development plans and candidate evaluation criteria. To this end, they ranked the skills of listening, questioning, and defining issues as the most important for effective conflict management.

5.3 Conclusion from Findings

Ferguson (1999) felt that conflict within any kind of social organisation is inescapable and proposed that it is up to managers to cultivate strategies for actively dealing conflict, rather than simply avoid it.

An effective strategy in the construction project scenarios would be to address the most prevalent origin of conflict, which this study has identified as the lack of communication. This shortcoming is brought about most frequently by ambiguous and complex information. Technical information was not regarded as being particularly significant in causing conflict, and nor were difficult people, so it should be assumed that the communication difficulties around ambiguous and complex information came from other sources. It did not arise from technical matters of fact, nor did it arise from communication difficulties between people. It seems to have arisen rather from the lack of consensus, and then general lack of effort to discuss differences of opinion in the interpretation of ambiguous and complex information. It was Kellet (2007) who

explained that conflict could come about through inaccurate perceptions and a lack of coordinated meaning and definition. This type of complex and ambiguous information most often appears in contractual documentation and the proliferation of specifications and special requirements that are bundled with construction contracts.

5.4 Recommendations

Strategies that aim to reduce the potential for conflict escalation are preferred and should include early engagement and intervention to resolve the initial, uncomfortable stages of disagreements in order to manage the stressfulness of conflict (Ferguson, 1999). Because conflict appears to stem primarily from the lack of open and frank discussion between parties on matters relating to the interpretation of contractual issues it is recommended that proactive strategies are used to ensure that effective communication takes place before the ambiguities and complexities are allowed to escalate into conflict. In this way the negative impacts on working relationships can be minimised, hopefully by avoiding conflict altogether, but at the very least by mitigating the degree to which it will escalate.

A potential strategy would be to have the parties to a contract, meet shortly after the commencement of new project in a facilitated workshop setting to discuss points of interpretation and meaning that typically arise from contract documentation. Although such a workshop would never be able to cover all possible contentious issues, the intent is primarily to prevent the 'lack of communication' about 'ambiguous and complex information' by opening up the channels of communication between individuals early on in the relationship.

For individual organisations it is recommended that, formal efforts are put in place to leverage the undocumented learning's and skills developed by practitioners in managing conflict. This may take the form of similar facilitated workshops were common scenarios of conflict are discussed and experiences are shared amongst staff. This will provide an ideal opportunity to also craft a common organisational culture of positivity and a paradigm of constructive and functional conflict management, which is essential for obtaining favourable negotiated outcomes.

5.5 Limitations of This Study

The method of contacting potential respondents in this study involved non-probability sampling and therefore the selection of respondents may be skewed by a bias towards particular professions, organisations, or interest groups.

The sample size was not as large as would have been desirable for the results to be considered generalisable to the greater population of construction practitioners. The targeted sample size was 383 respondents. However, after sending 625 personal invitations to participations and posting open invitations on many public forums, due to time limitations, the survey had to be closed after 31 days, having received 153 responses, of which 122 questionnaires were fully completed.

Further to the above limitations, the questionnaire relied on the perceptions of the respondents and rather than observations of their actions or some other measurable dimension.

5.6 Further Research

- This study focused on conflict in the South African construction industry, opportunities exist to study conflict in other industries and regions in order to compare the findings.
- There was a trend noted in the age and experience findings that indicated a significant decrease in new entrants to the construction industry. This trend should be investigated utilising a research tool designed for the purpose. It is not clear from this study if the trend is a consequence of an underlying bias of the research tool and also the research tool was designed to investigate the demographic data at a suitable resolution to provide meaningful insight into this potential trend. A significant decrease in new entrants to the industry could in future have a negative impact on the talent pool and the industry's ability to deliver cost effectively and profitably on infrastructure development.
- Further studies on the phenomenon of conflict in construction, should attempt to uncover correlations between behavioural and attitudinal dimensions of respondents and the occurrence of conflict. Such a study would need careful consideration and the

researcher would require a thorough understanding of both the fields of behavioural sciences and construction management.

- As noted in Chapter 4, role definitions and role ambiguity for management in a technical field such as construction or engineering should present an interesting area for further study. Project based organisations seem to have a challenge with overlapping professional and business management functions. These organisations are arranged internally as matrix organisations, but the added complexity arises from joint ventures and the requirements of temporary project hierarchies, which in some cases may span several years and even see staff promoted during the execution phase. These organisations are constantly evolving and rearranging themselves to suit the requirements and demands of projects, both those being tendered and in execution.

5.7 Closing Remarks

Construction professionals acknowledge overall that conflict is a persistent occurrence within their occupations. It is an unfortunate reality they have come to accept and now expect. Ambiguous and unclear contractual information seems to be the primary instigation for conflict. It is suggested all contracting parties, familiarize themselves with contractual documentation and attempt to hold workshops early on in projects in order to diffuse any adversity resulting from conflicting view points. The aim is to develop a mutual understanding of the *raison d'être* for the contract and to hopefully set a positive tone, under which it will be possible to manage favourable negotiated outcomes during the project.

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Conflict Management Approaches Used by South African Construction Project Management Professionals

Introduction

UNIVERSITY OF KWAZULU-NATAL
Graduate School of Business and Leadership
Westville Campus

Dear Respondent,

I, Ian van Aardt, an MBA student at the Graduate School of Business and Leadership, University of KwaZulu-Natal am inviting you to participate in a research project entitled: **Conflict Management Approaches Used by South African Construction Project Management Professionals.**

As a professional in the construction industry, your assistance with this research study would be highly appreciated. Conflict can be constructive and beneficial to a point, but it can be also destructive and dysfunctional if not properly managed. The aim of this questionnaire is to obtain opinions and perspectives on the prevalence of conflict, the nature of conflict, and conflict management skills in the construction industry.

This research is conducted as part of the requirements for the degree of Master in Business Administration. The results of the study may benefit the construction project management profession by better understanding the nature of conflict and the development of future skills development opportunities for project managers in managing conflict for positive project outcomes.

Your participation is entirely voluntary and by completing this questionnaire you will contribute to the success of this study. There will be no monetary gain from participating in this survey and you may refuse to participate at any time with no negative consequences.

The questionnaire should only take 10-15 minutes to complete. The information you supply will be regarded as highly confidential and will only be used for the purposes of this study.

Thank-you for taking the time to read and complete the questionnaire.

Should you have any questions or concerns about completing the questionnaire or about participating in this study, you may contact me or my supervisor at the numbers below:

Researcher: Mr. Ian van Aardt 083 380 8085

Supervisor: Mr. A. Bozas

Or alternatively you may contact the University of KwaZulu-Natal HSSREC Research Office:
Humanities and Social Sciences Research Ethics Committee

University of KwaZulu-Natal

Mariette Snyman

HSSREC Research Office

Tel: 031 260 8350

Email: snymanm@ukzn.ac.za / hssreclms@ukzn.ac.za

Conflict Management Approaches Used by South African Construction Project Management Professionals

Informed Consent

UNIVERSITY OF KWAZULU-NATAL
Graduate School of Business and Leadership
Westville Campus

1. Full Name

2. I confirm that I understand the contents of this document and the nature of the research, I consent to participating in the research project, and I understand that I am at liberty to withdraw from the study at any time, should I so desire.

- Agree
- Withdraw

Should you have any questions or concerns about completing the questionnaire or about participating in this study, you may contact me or my supervisor at the numbers below:

Researcher: Mr Ian van Aardt 083 380 8085

Supervisor: Mr. A. Bozas 082 334 4477

Or alternatively you may contact the University of KwaZulu-Natal HSSREC Research Office:

Humanities and Social Sciences Research Ethics Committee
University of KwaZulu-Natal

Mariette Snyman
HSSREC Research Office
Tel: 031 260 8350
Email: snymanm@ukzn.ac.za / hssreclms@ukzn.ac.za

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Demographics

3. What is your age?

- 18 to 24
- 25 to 34
- 35 to 44
- 45 to 54
- 55 to 64
- 65 to 74
- 75 or older

4. What is your gender?

- Female
- Male

5. What is your highest level of educational qualification?

6. How many years experience do you have in the construction industry?

- Less than 1 year
- 1 to 5 years
- 6 to 10 years
- 11 to 15 years
- 16 to 20 years
- 21 to 25 years
- 25 years +

7. Which category best describes your profession or position in your organisation?

- Quantity Surveyor
- Engineer
- Architect
- Construction Manager
- Construction Project Manager
- Project Manager
- Other (please specify)

8. How many years experience do you have in the profession or position you indicated above?

- Less than 1 year
- 1 to 5 years
- 6 to 10 years
- 11 to 15 years
- 16 to 20 years
- 21 to 25 years
- 25 years +

9. Are you registered with The South African Council for Project and Construction Management Professionals (SACPCMP)?

10. Are you a member of Project Management South Africa (PMSA)?

11. Are registered with the Engineering Council of South Africa (ECSA)?

Conflict Management Approaches Used by South African Construction Project Management Professionals

Nature of Conflict, Frequency and Intensity

12. Please indicate how strongly you agree or disagree with the following statements related to conflict situations in the construction project management context. Please answer all the questions.

	Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree
Conflict in construction projects occurs quite regularly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have been involved in some form of conflict with project colleagues in the past month.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conflict on projects has a negative impact on working relationships.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conflict in construction projects is unavoidable.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Project conflict stems from a lack of effective communication between parties.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conflict in construction projects is unnecessary.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conflict in construction projects stems from technical factors.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conflict in construction projects is the result of complicated or ambiguous information.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conflict situations in projects are always resolved amicably.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conflict is almost a daily occurrence in construction.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conflict in construction projects arises because of difficult people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Conflict Management Approaches Used by South African Construction Project Management Professionals

Project Conflict Management Maturity

13. Considering your own manner of dealing with conflict management in the role of project manager, please rate how strongly you identify with the following statements as they relate to your projects.

	Not at All	Not Really	Neutral	Somewhat	Very Much
It is a win-lose world and I adopt a defensive or aggressive posture in conflict situations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have developed my own techniques to manage conflict on projects.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
On my projects, I have implemented a process for everyone to use in order to manage the conflict without fighting.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a positive view of conflict management and confront bullies or address apathetic behaviour.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
All members of my team have received some form of conflict management training and some are even more experienced at conflict management.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Within my projects and team the conflict management processes are being generated by the team themselves, who are constantly adapting and regulating them to suit the circumstances.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I always fight for what I think is right and use the truth to make my case.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	Not at All	Not Really	Neutral	Somewhat	Very Much
I have helped put in place some processes to deal with conflict in order to avoid adversarial confrontations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Managing conflict does not require a 'fight'.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have ensured that others I manage are skilled and confident in conflict management.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My project(s) is/are audited or at least self-assessed for conflict management good practice and there is a continuous improvement system in place.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My project team has well developed conflict management processes and skills, and the time and effort we spend on this is 'worth its weight in gold'.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There are no processes in place to avoid these adversarial win-lose situations.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I keep a positive state of mind and am willing to resolve everyday conflicts.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have developed some formal skills in conflict management such as assertiveness, negotiation, and mediation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
On my project(s), I have put in place, structured processes to ensure staff and customers are informed of how we deal with conflict management.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Not at All

Not Really

Neutral

Somewhat

Very Much

My project team positively embraces good conflict management processes and practices.

All of my project team members have conflict management skills incorporated into their personal development plans, and when selecting people for project assignments their inherent conflict management approach is a big deciding factor.

Conflict Management Approaches Used by South African Construction Project Management Professionals

Conflict Management Skills Development & Education

14. Please rank the following sub-skills of negotiation and conflict resolution as you see their relative importance to obtaining positive outcomes (1 - most important, 8 - least important):

<input type="text"/>	Defining issues
<input type="text"/>	Framing
<input type="text"/>	Listening
<input type="text"/>	Brainstorming
<input type="text"/>	Packaging
<input type="text"/>	Questioning
<input type="text"/>	Persuasion
<input type="text"/>	Argumentation

15. Please rank the following themes of negotiation and conflict resolution as you see their relative contribution to obtaining positive outcomes (1 - most important, 4 - least important):

<input type="text"/>	Negotiation as the management of relationships
<input type="text"/>	Negotiation as the management of emotion
<input type="text"/>	Negotiation as the management of interdependent personalities
<input type="text"/>	Negotiation as the management of complexity

Thank you very much for taking the time to complete the questionnaire.

28 September 2016

Mr Ian van Aardt (210527924)
Graduate School of Business & Leadership
Westville Campus

Dear Mr Van Aardt,

Protocol reference number: HSS/1461/016M

Project title: Conflict Management approaches used by South African Construction Project Management Professionals

Full Approval – Expedited Application

In response to your application received on 05 September 2016, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol have been granted **FULL APPROVAL**.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number.

PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully



.....
Dr Shenuka Singh (Chair)

/ms

Cc Supervisor: Mr Alec Bozas
Cc Academic Leader Research: Dr Muhammad Hoque
Cc School Administrator: Ms Zarina Bullyraj

Humanities & Social Sciences Research Ethics Committee

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